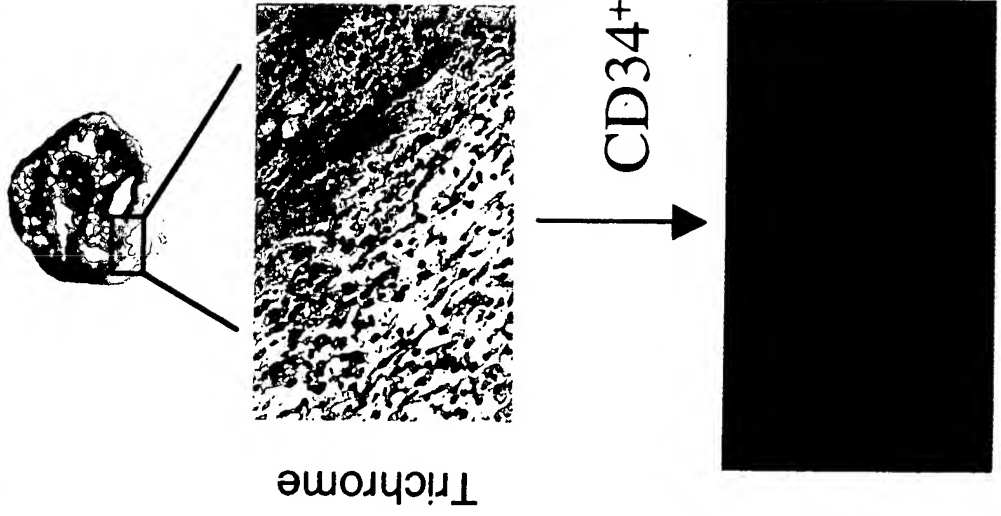


FIGURE 1A
Myocardial infarction



Sham procedure

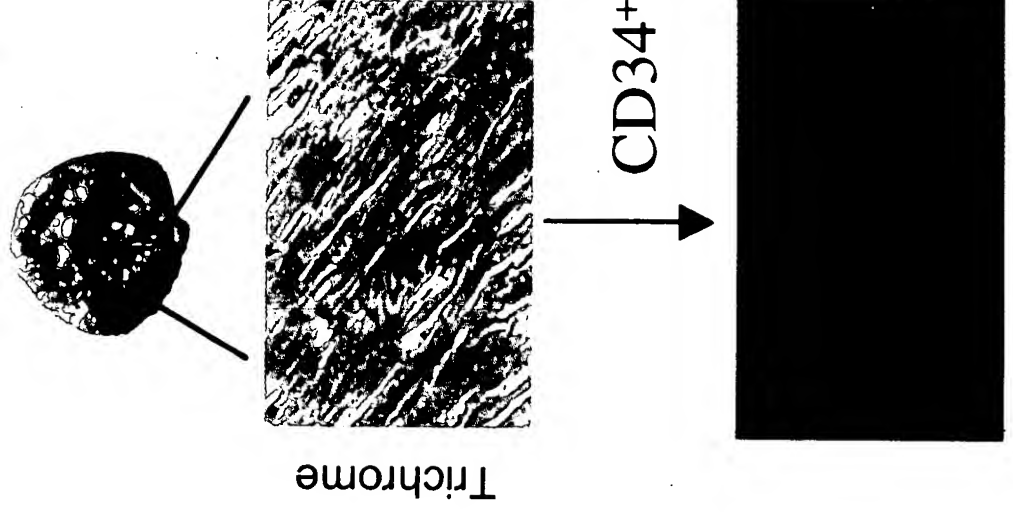


FIGURE 1B

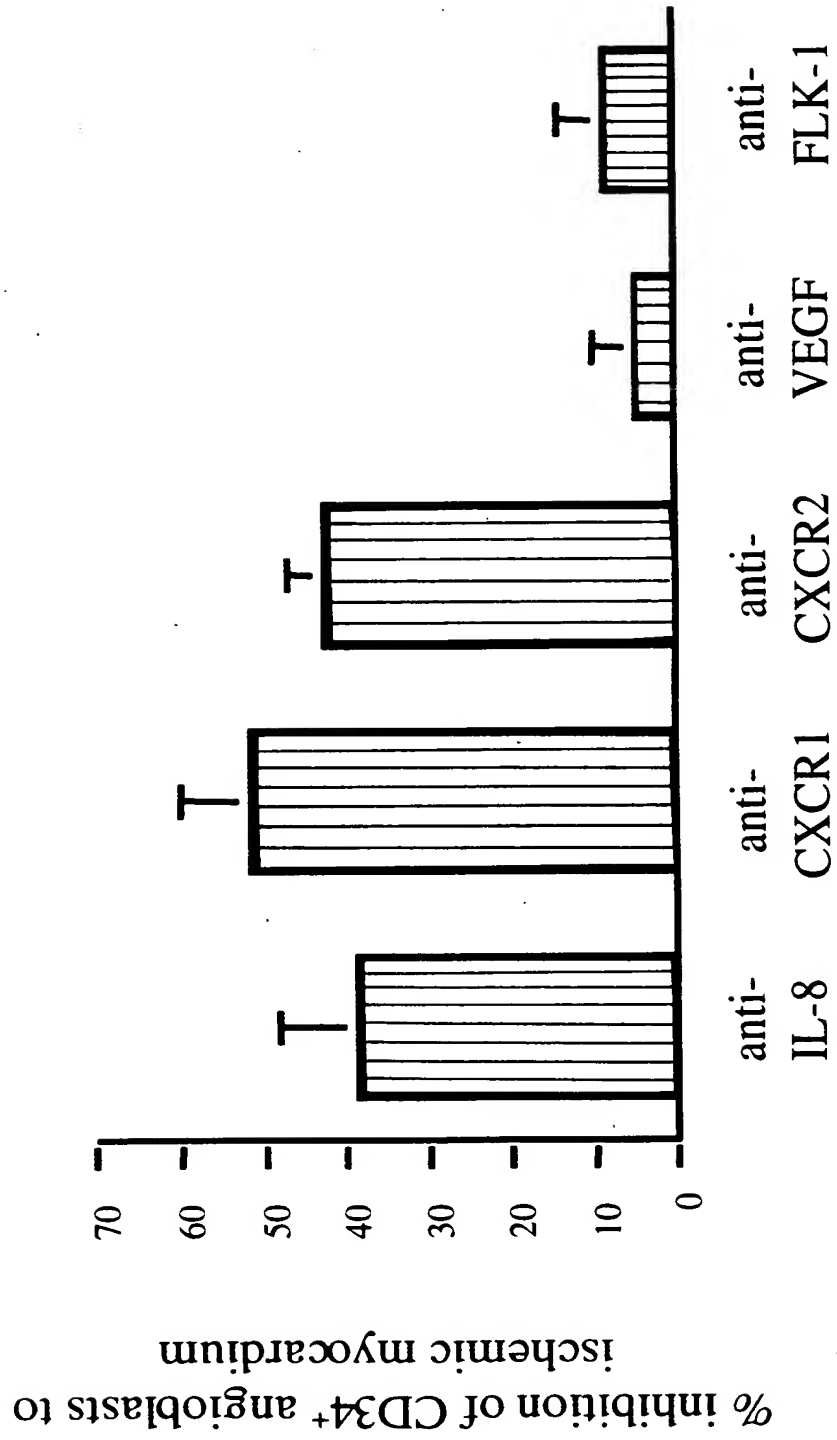


FIGURE 1C



FIGURE 1D

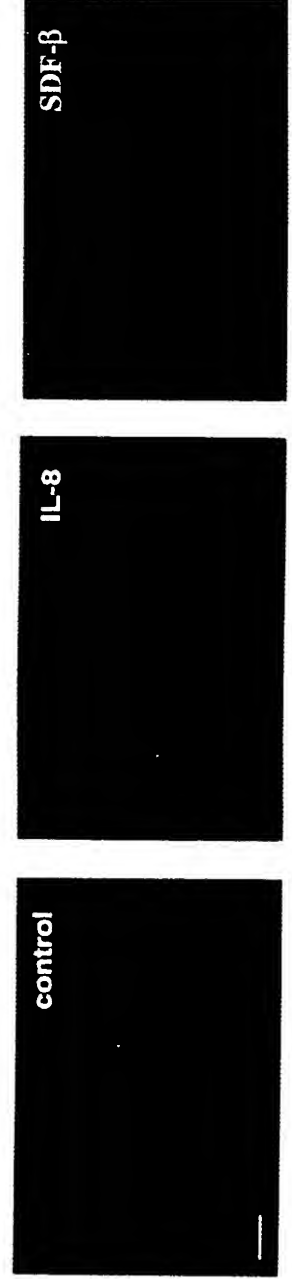
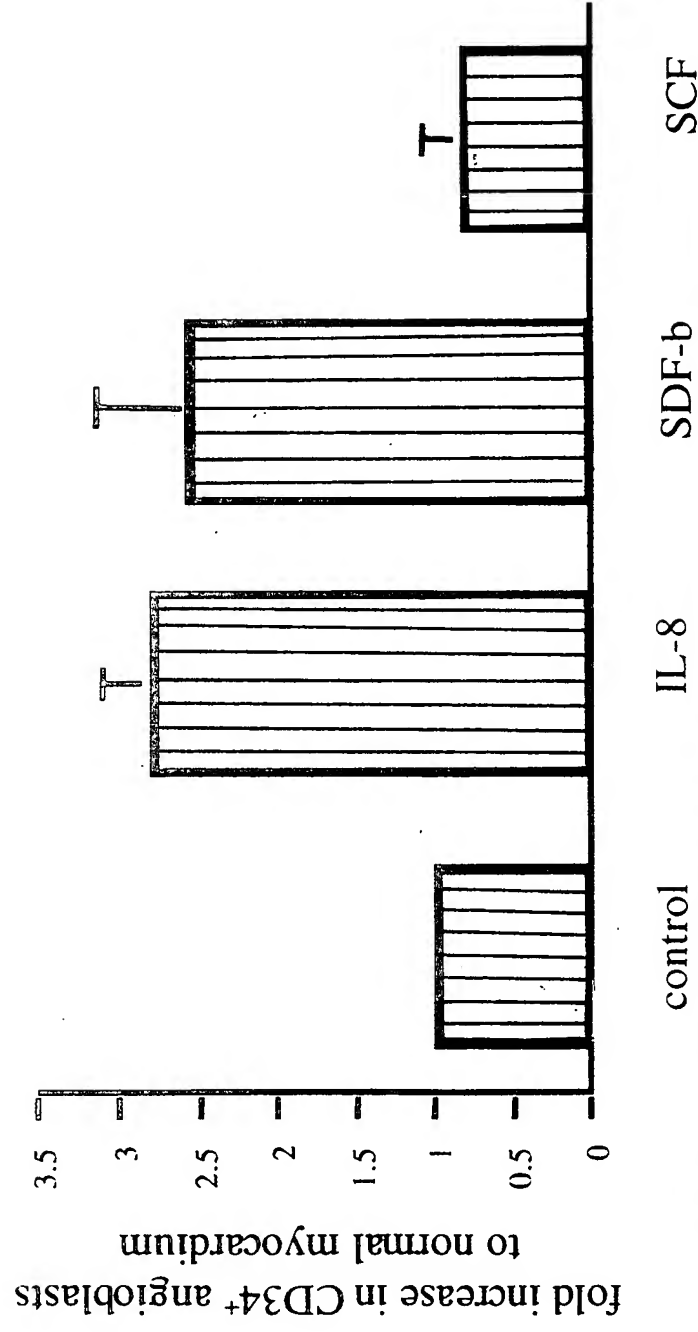


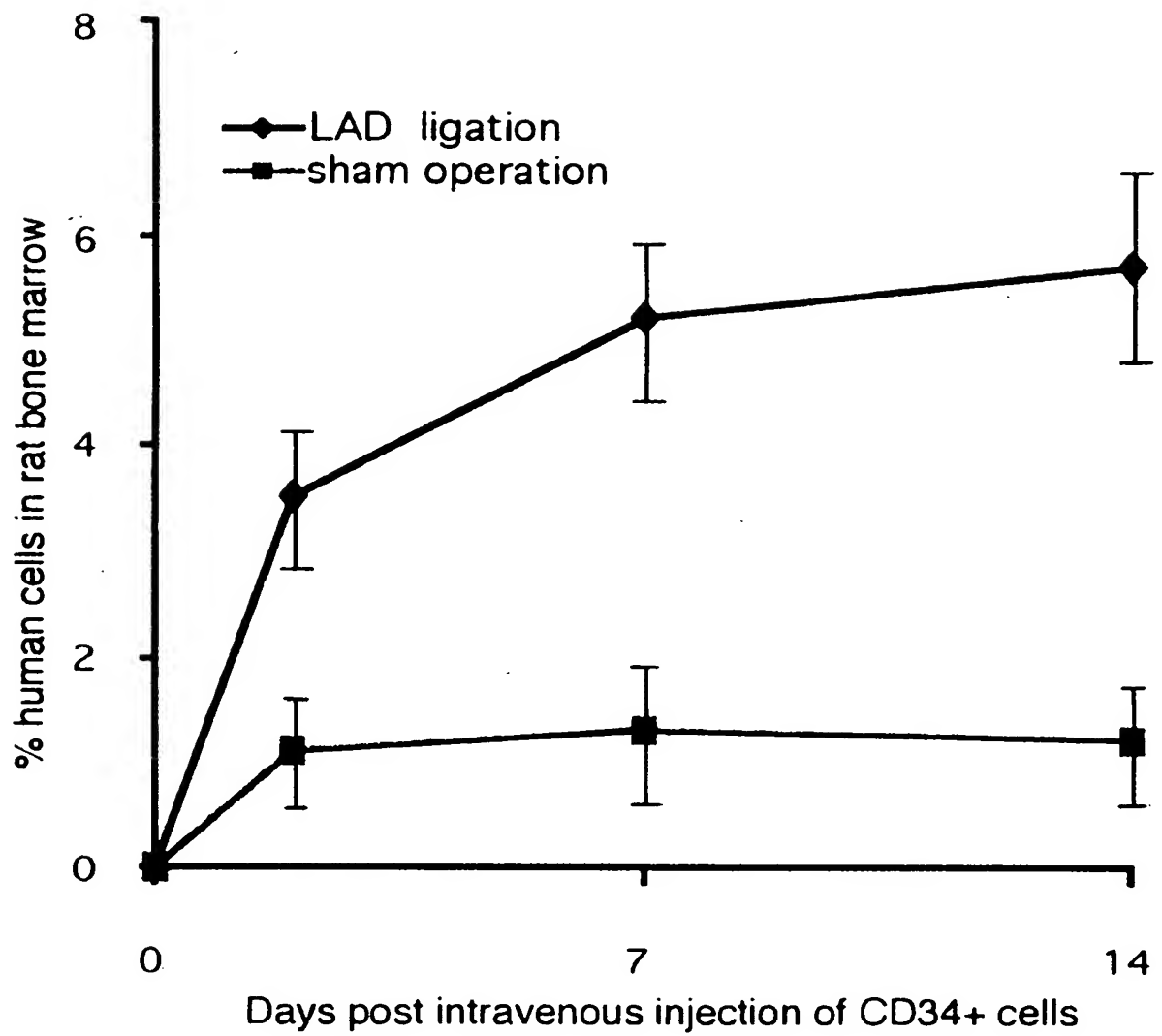
FIGURE 2A

FIGURE 2B

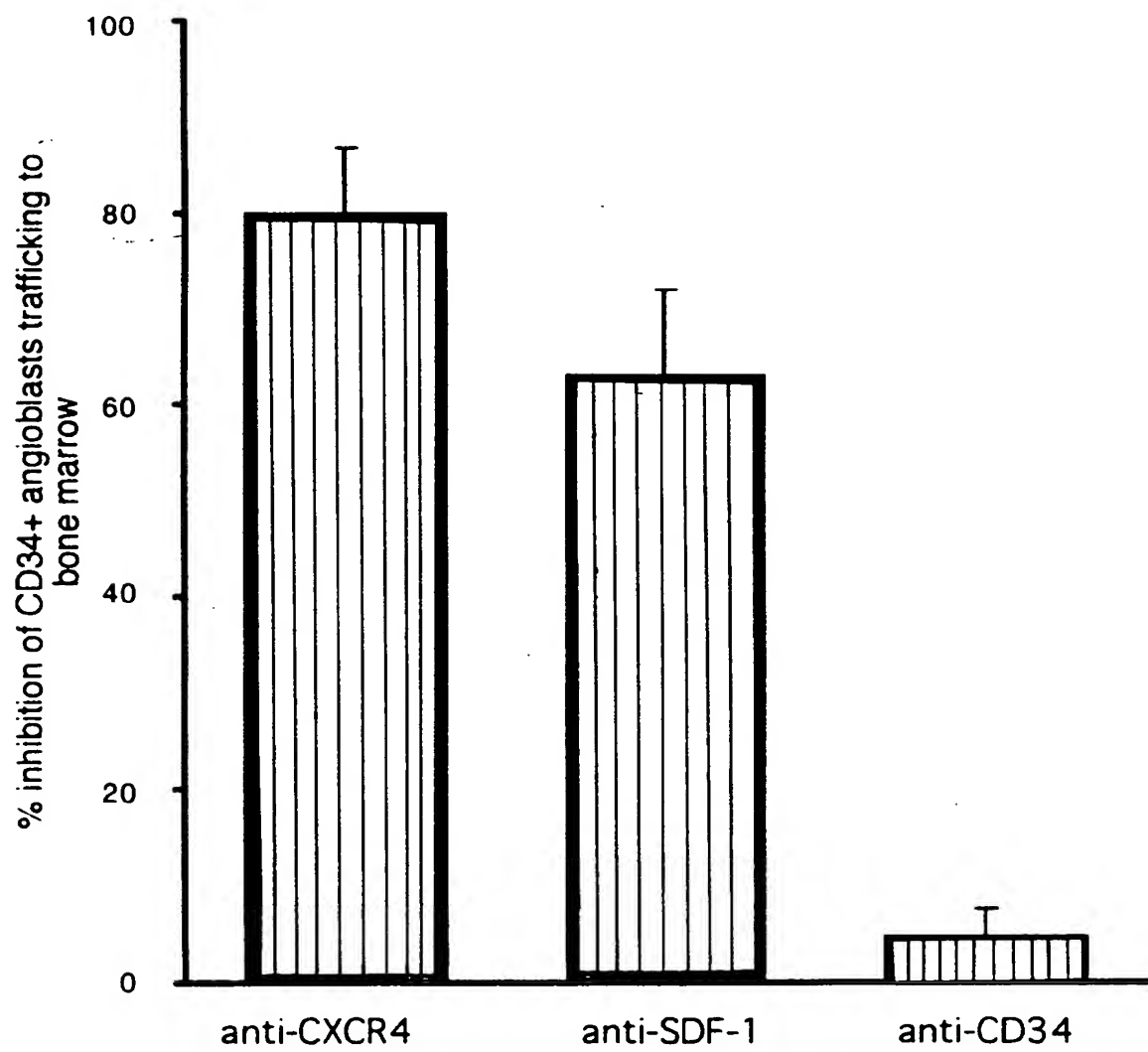


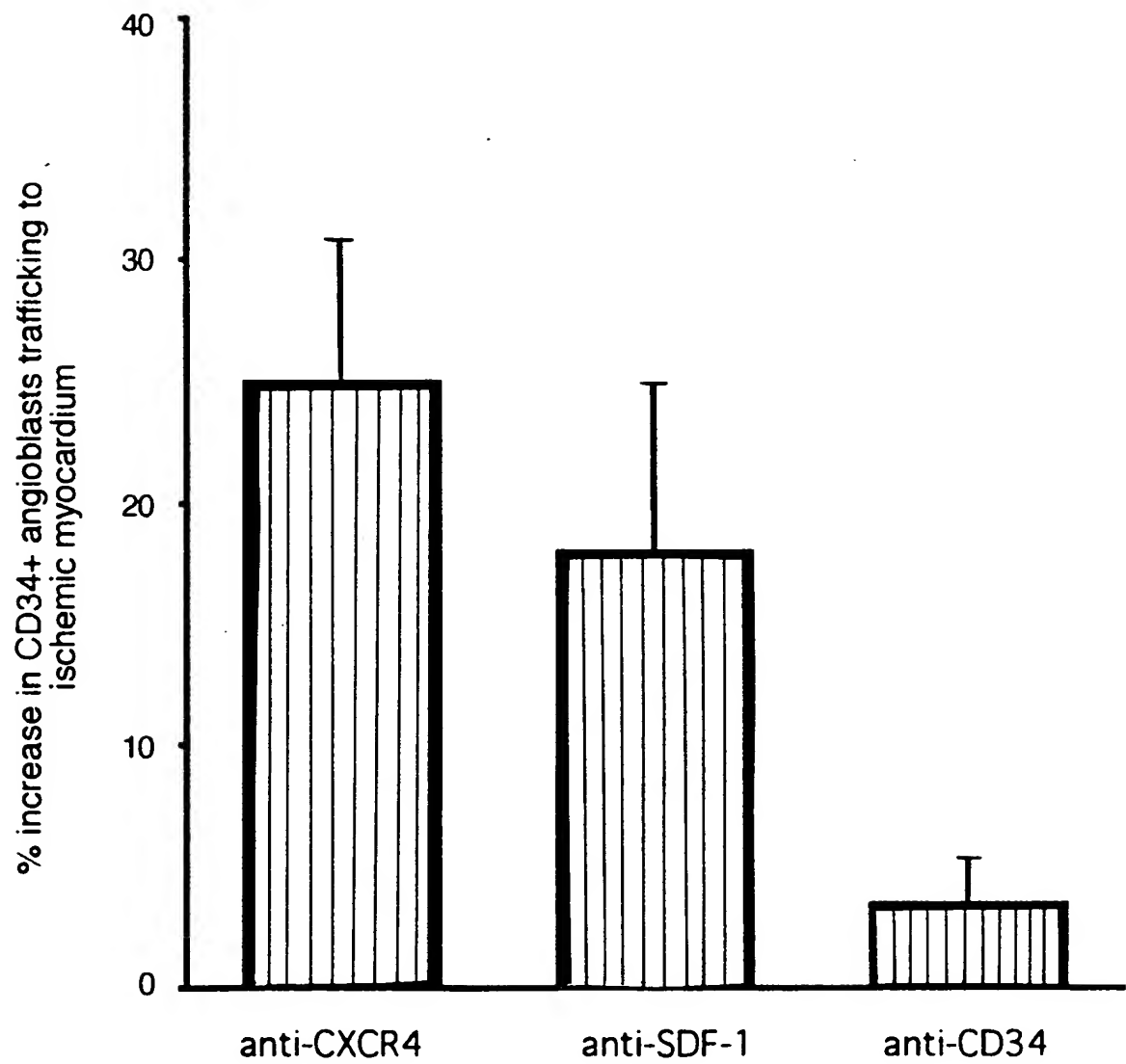
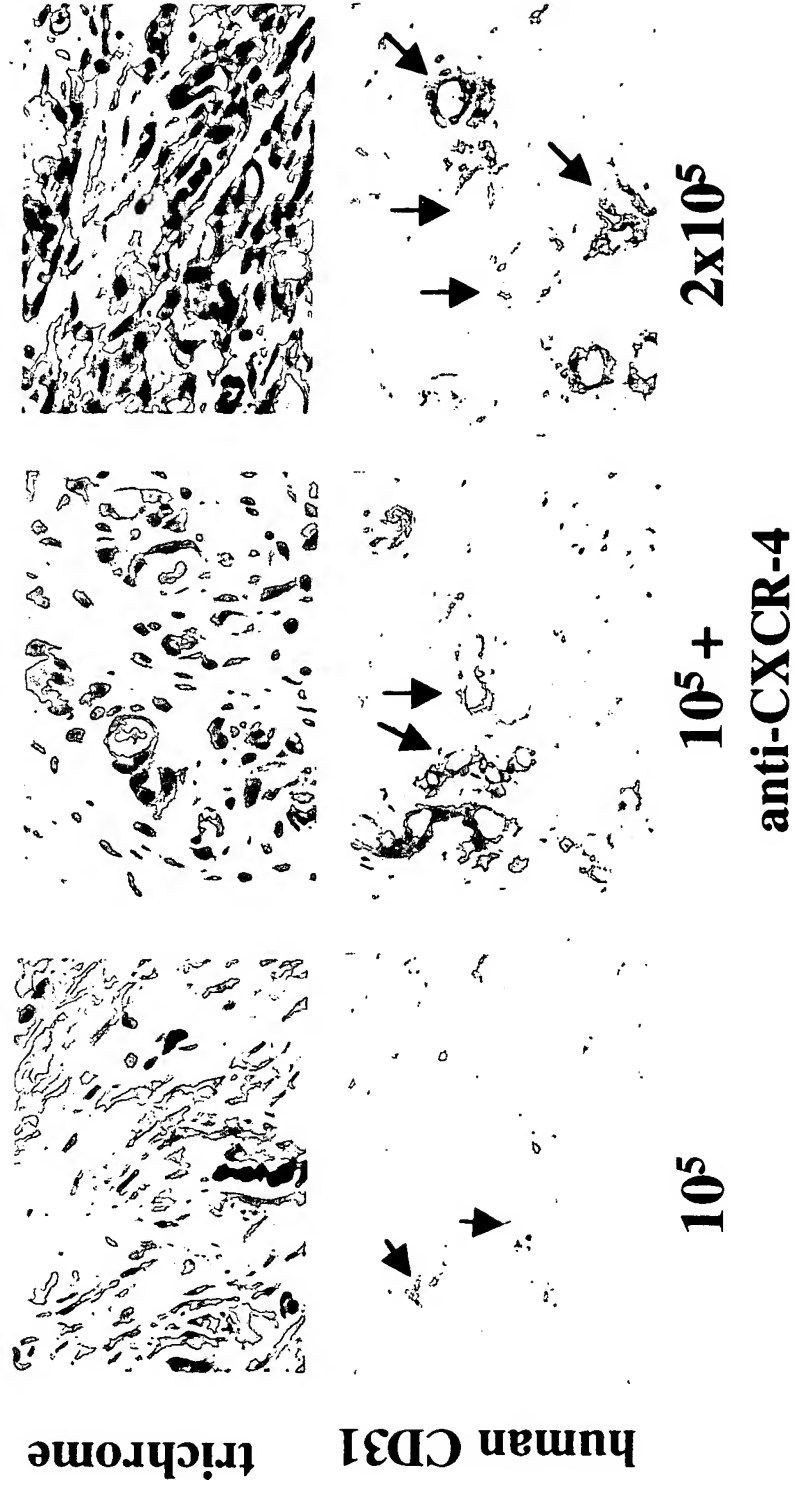
FIGURE 2C

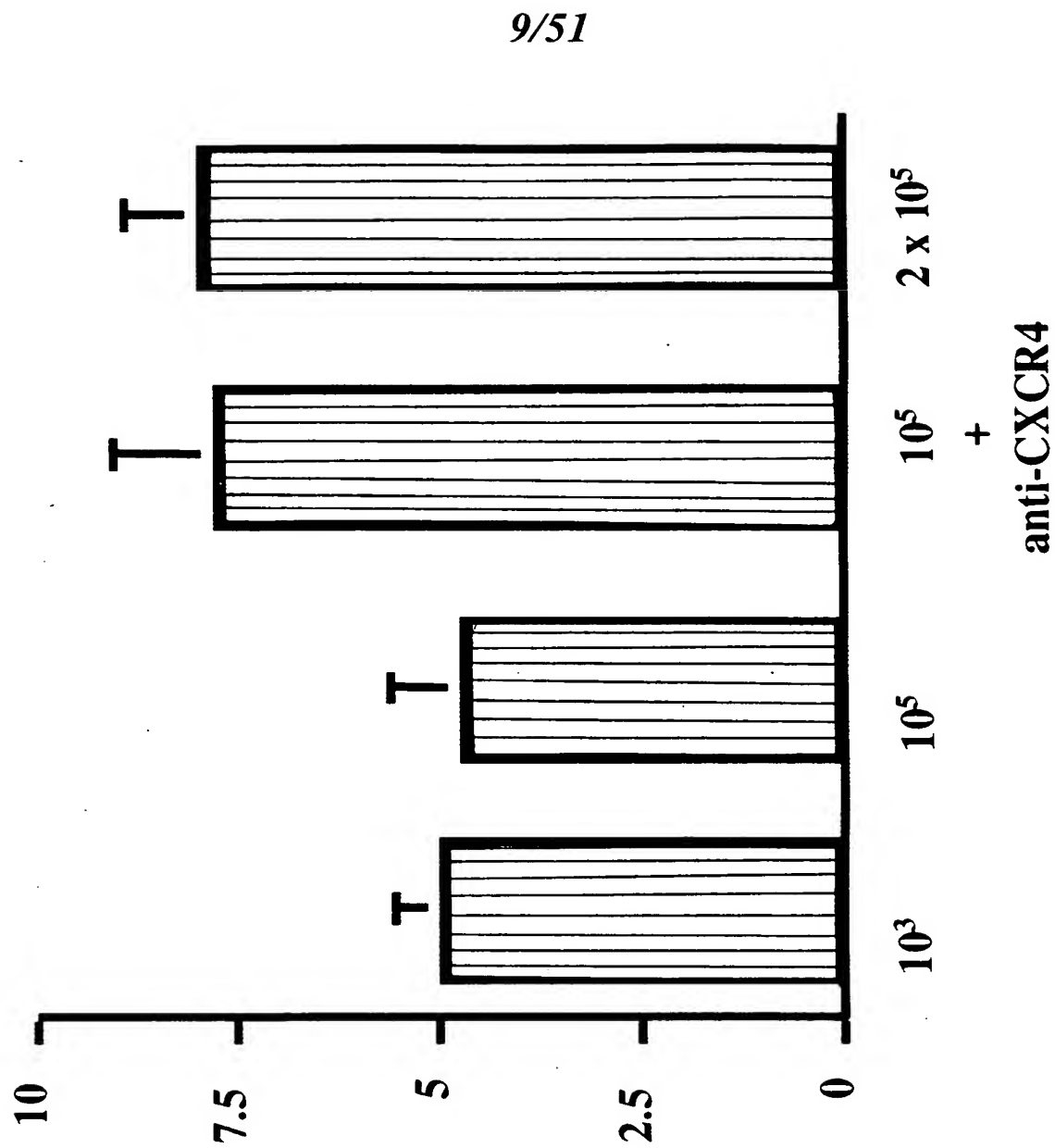
FIGURE 3A



angioblast concentration (cells/mm³)

FIGURE 3B

number of medium-diameter vessels
(3-6 nuclei) per high power field



angioblast concentration (cells/mm³) and condition

number of large-diameter vessels
(>6 nuclei) per high power field

FIGURE 3C

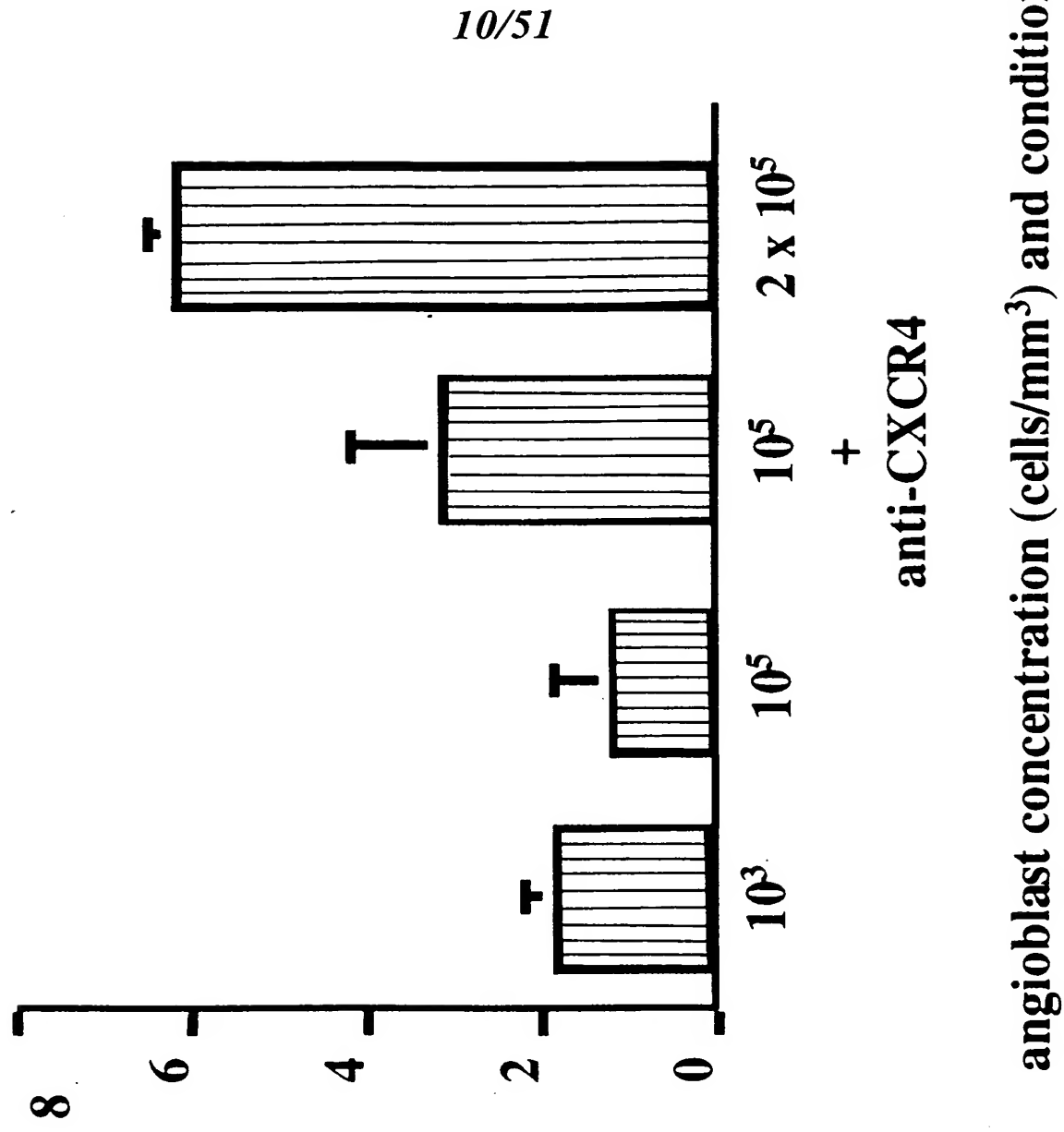
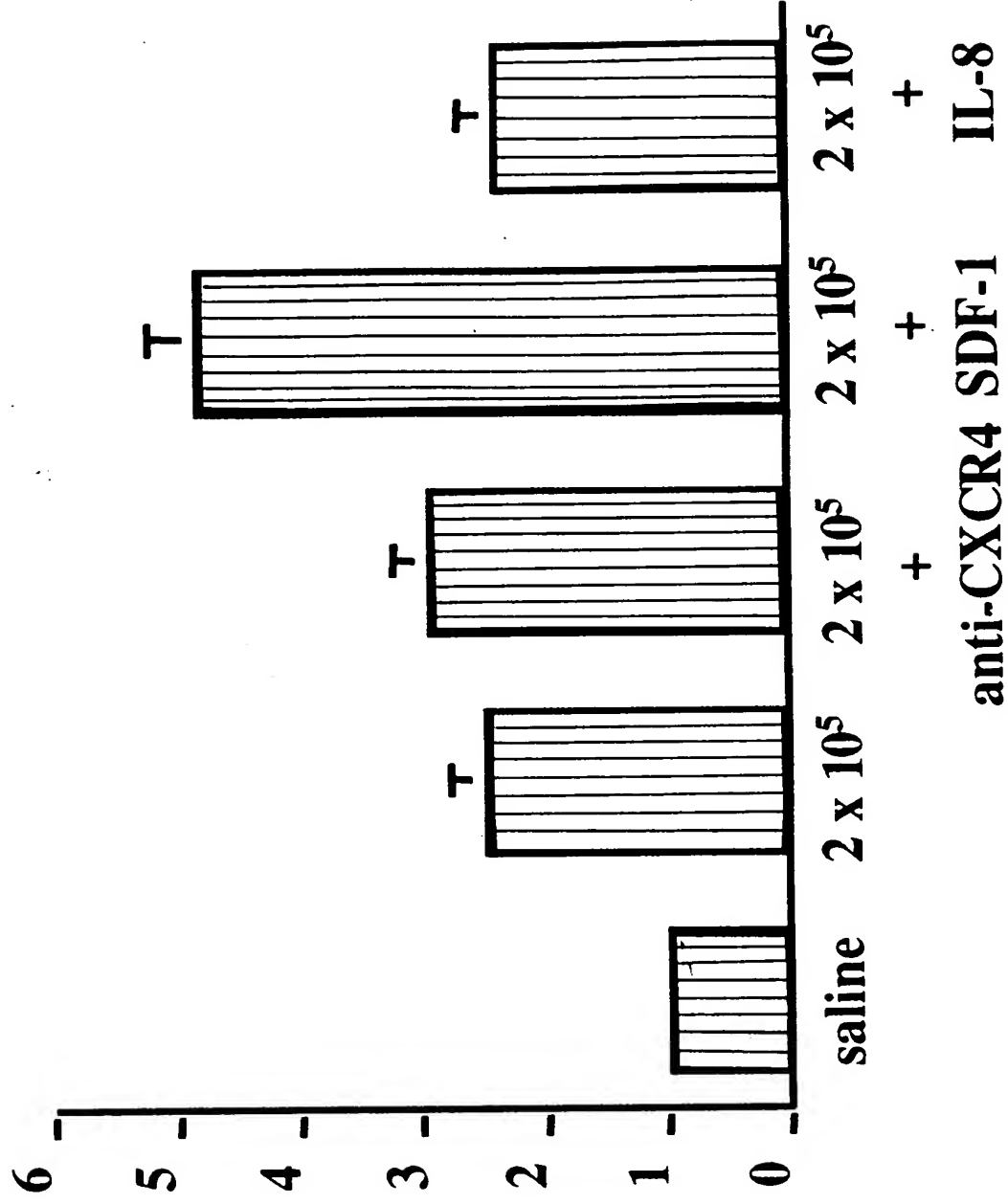
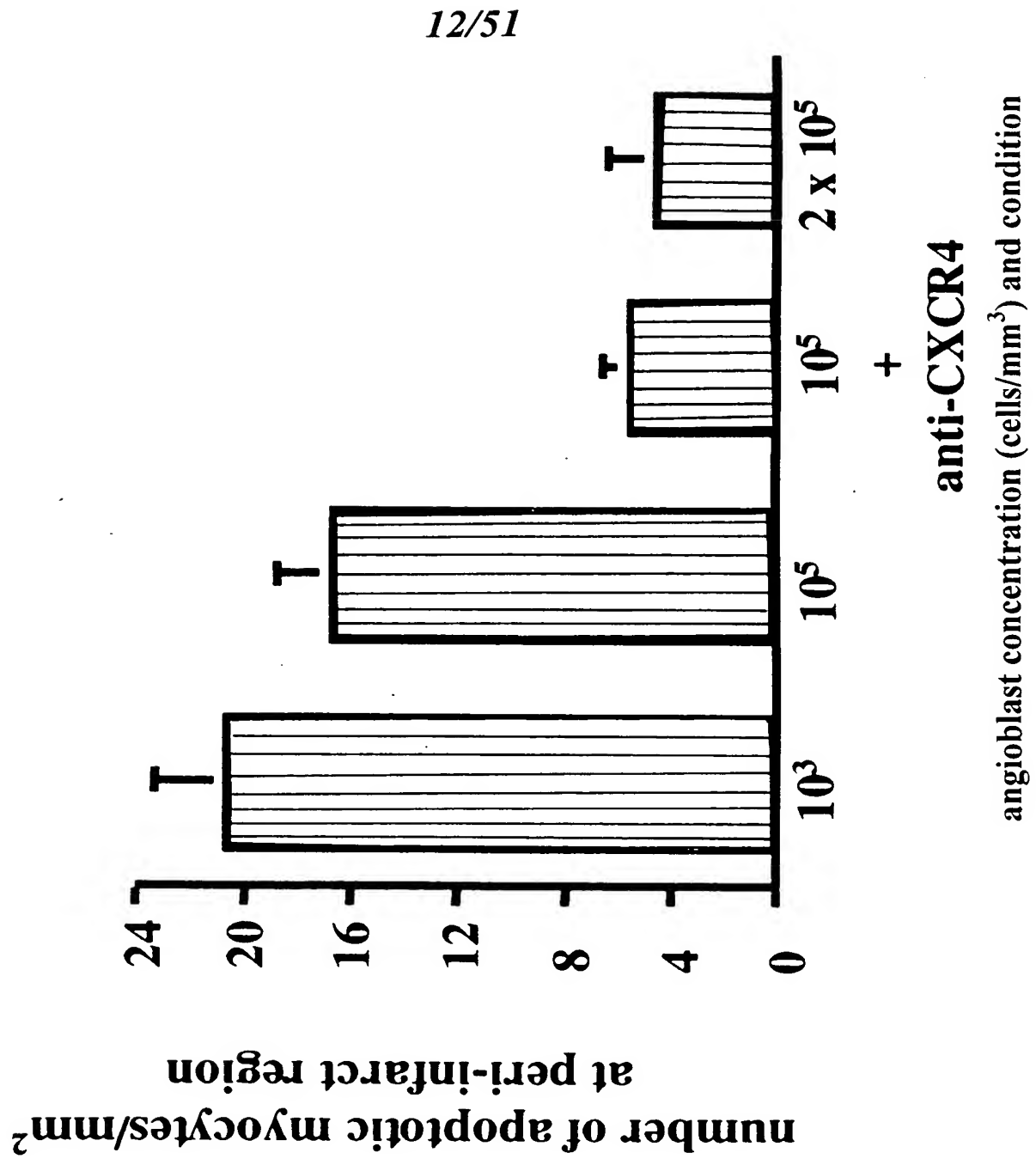


FIGURE 3D
fold increase in large-diameter
vessels/high power field



angioblast concentration (cells/mm³) and condition

FIGURE 3E



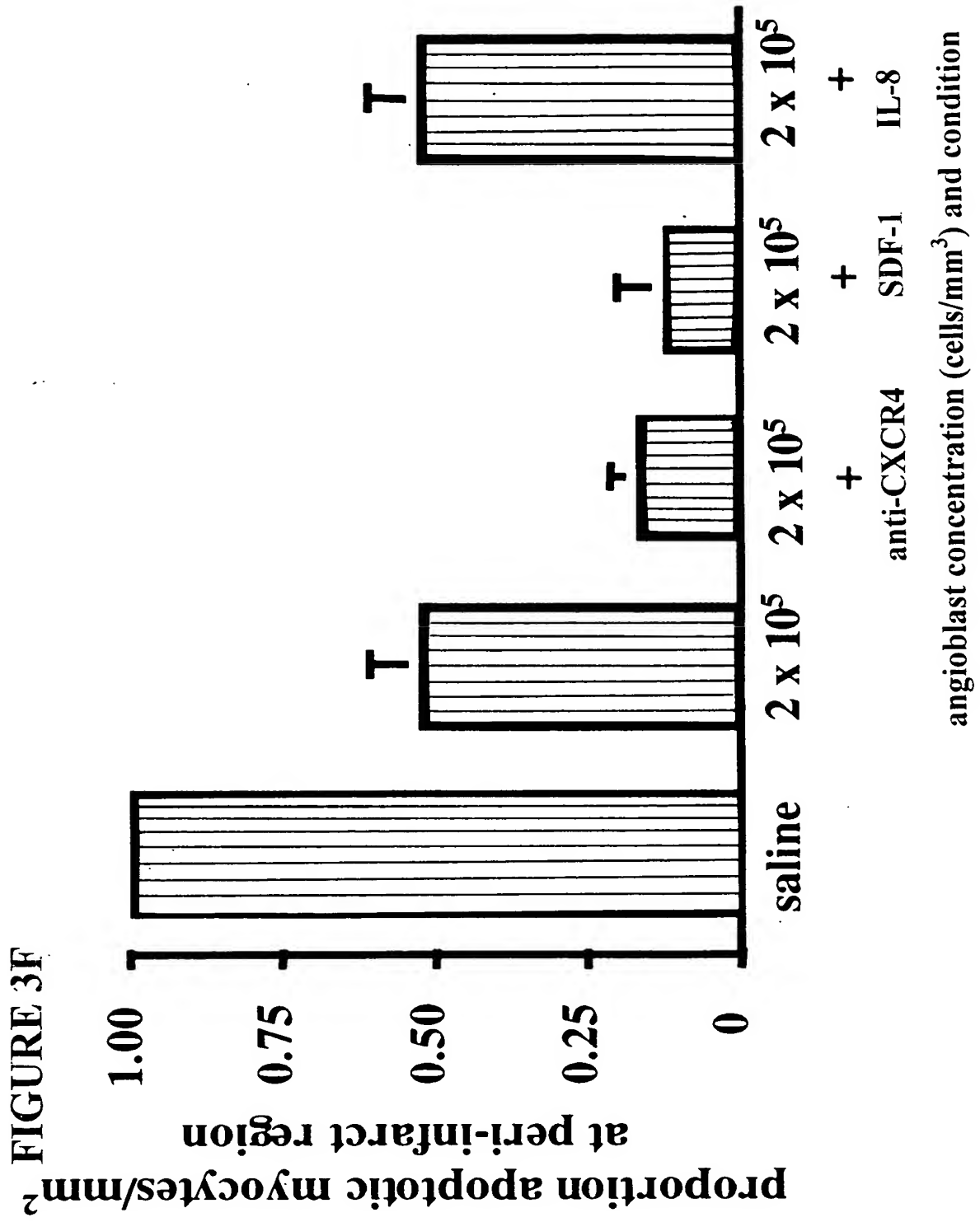


FIGURE 4A

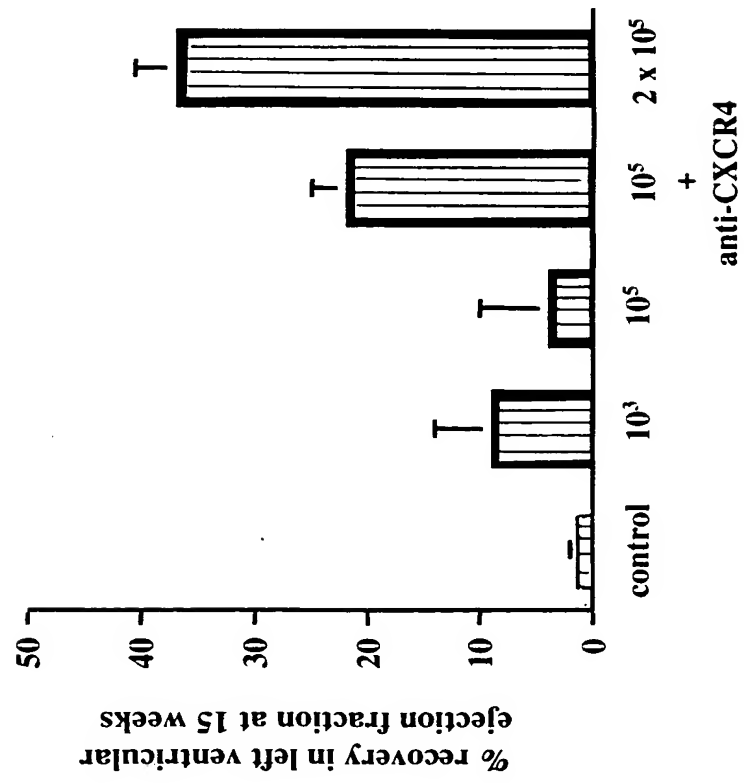
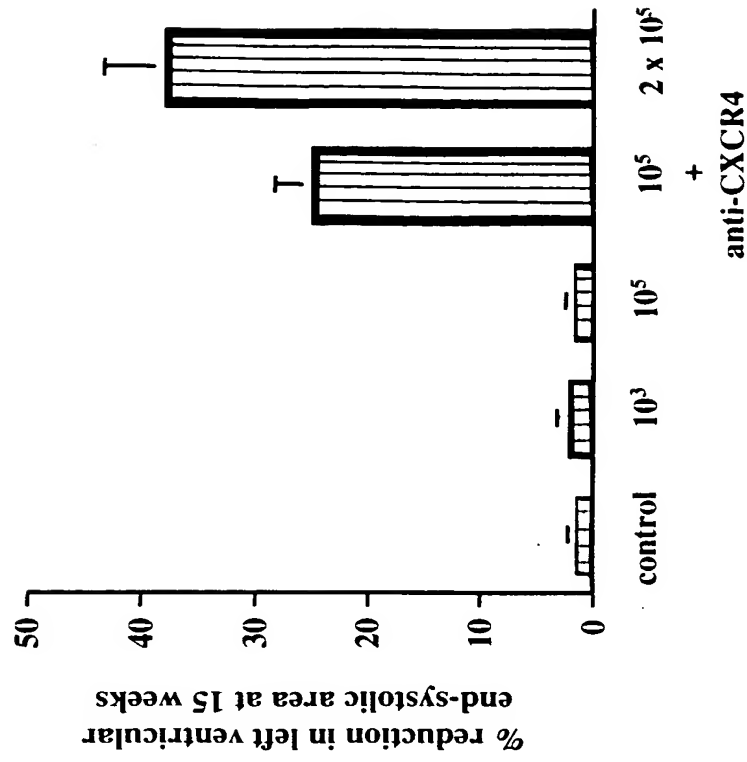


FIGURE 4B



angioblast concentration (cells/mm³) and condition

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FIGURE 4C

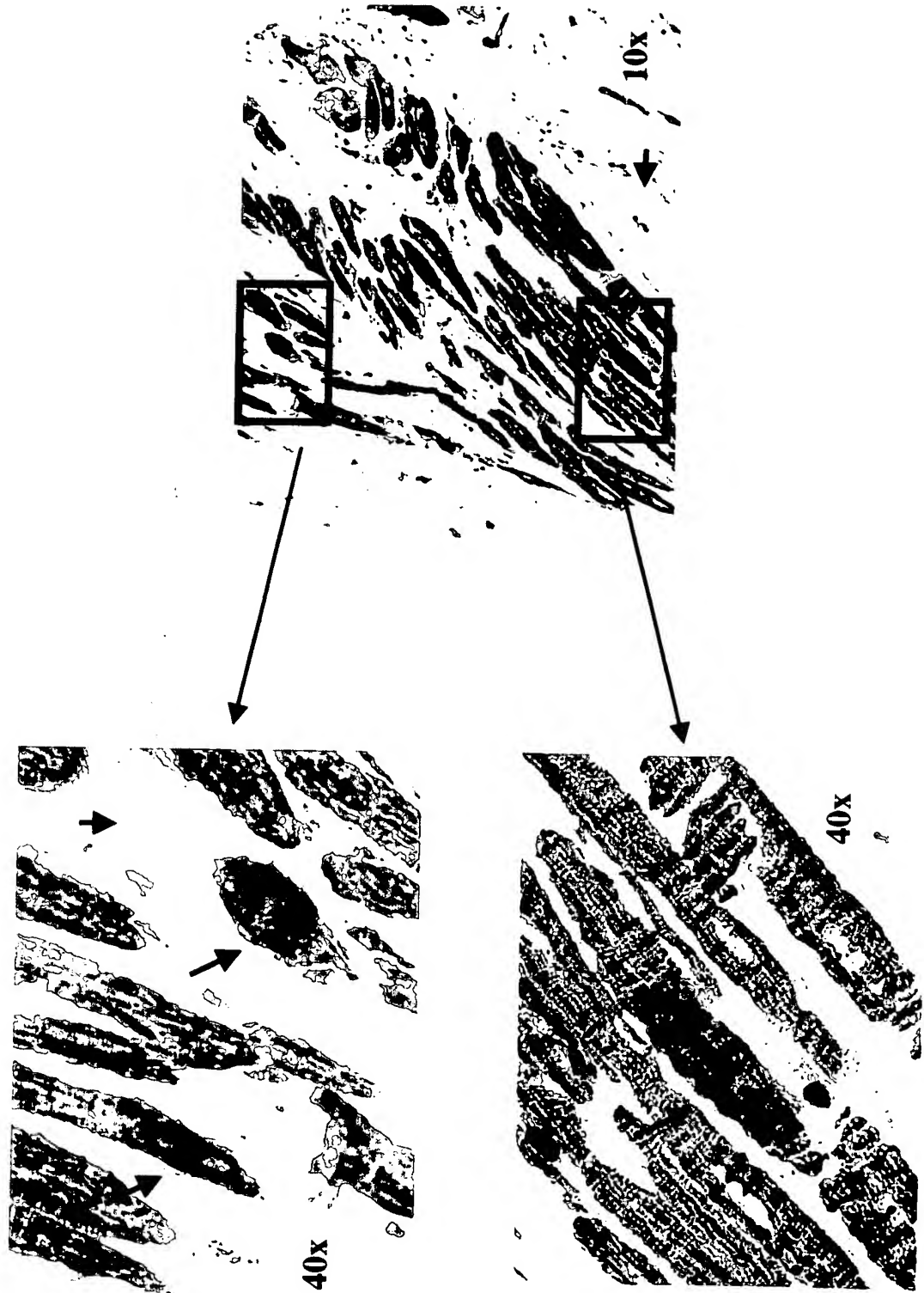
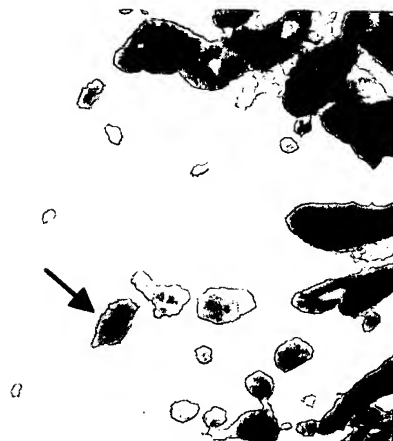


FIGURE 4D

2 x 10⁵ angioblasts



saline



2 x 10⁵ angioblasts



rat MHC class I

dual staining for rat Ki-67 (blue) and troponin I (brown)

fold increase in proportion of rat cardiomyocytes entering cell cycle relative to normal rat heart

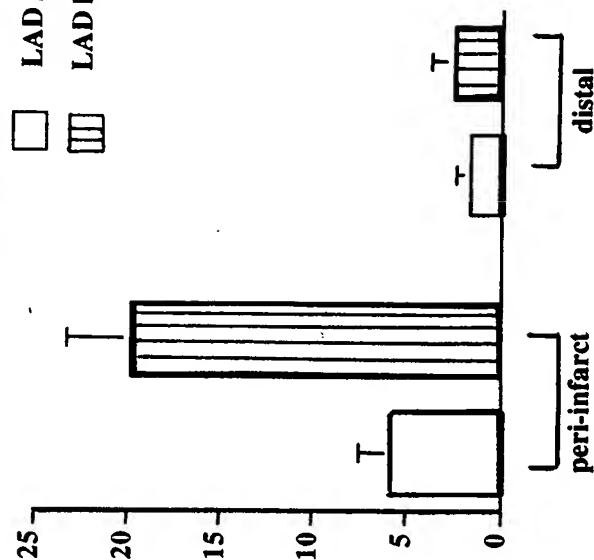


FIGURE 4E

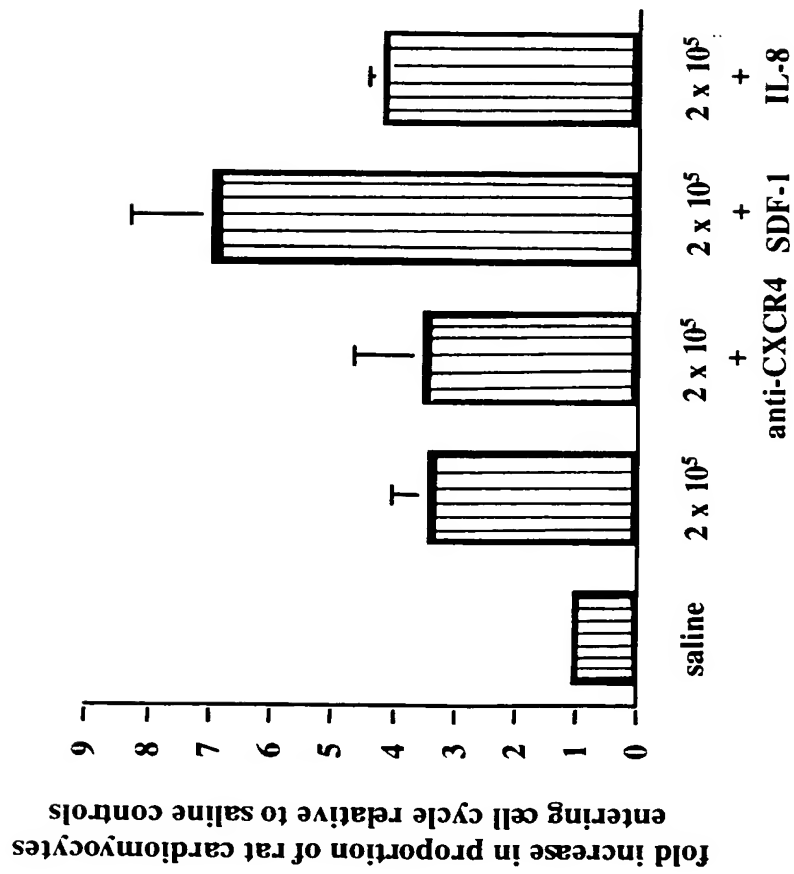
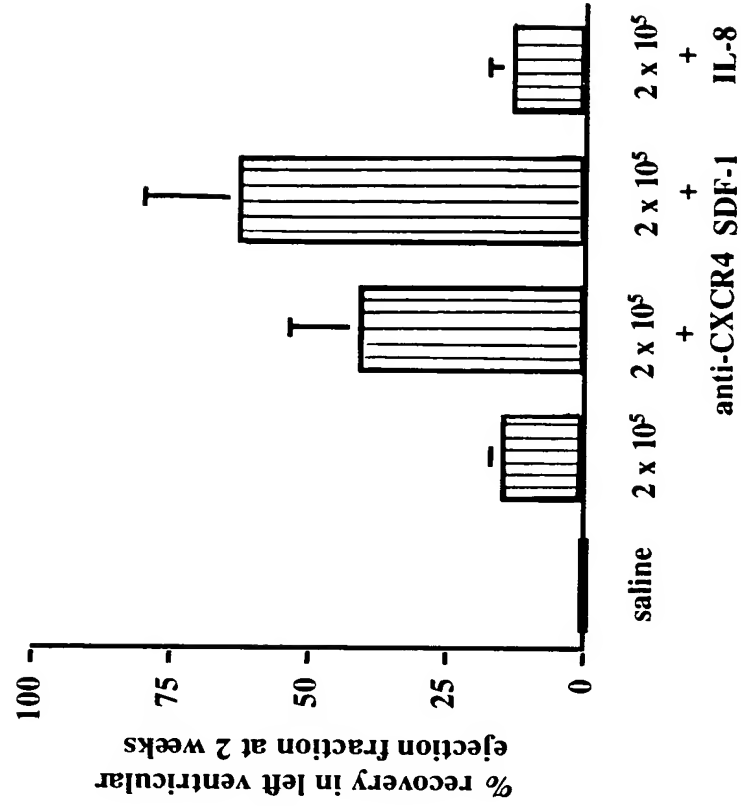


FIGURE 4F



angioblast concentration (cells/mm³) and condition

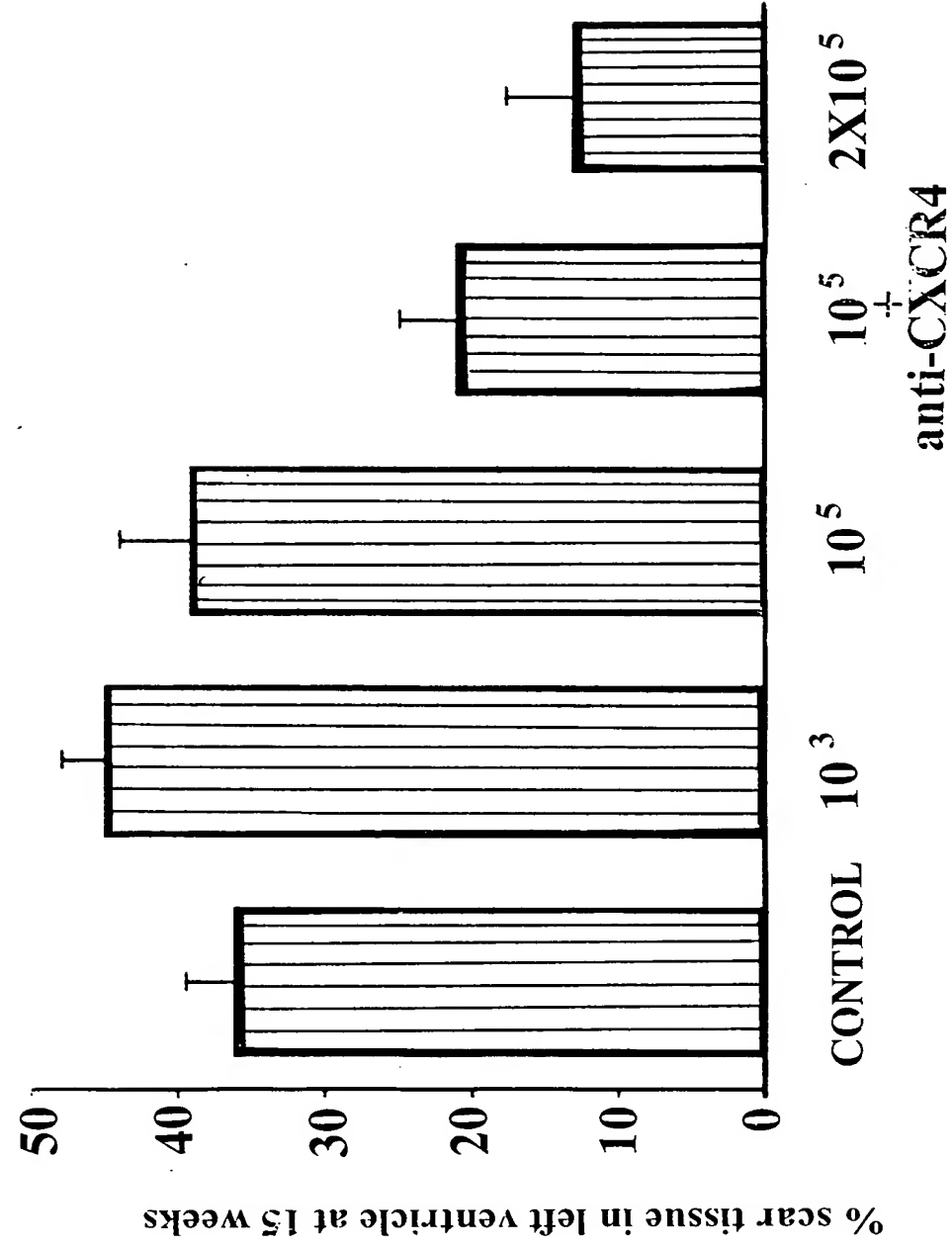
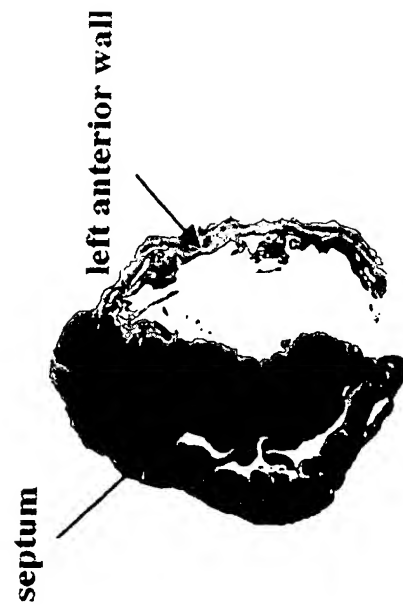


FIGURE 4G

angioblast concentration (cells/mm³) and condition

FIGURE 4H



10^3 angioblasts



2×10^5 angioblasts

FIGURE 5

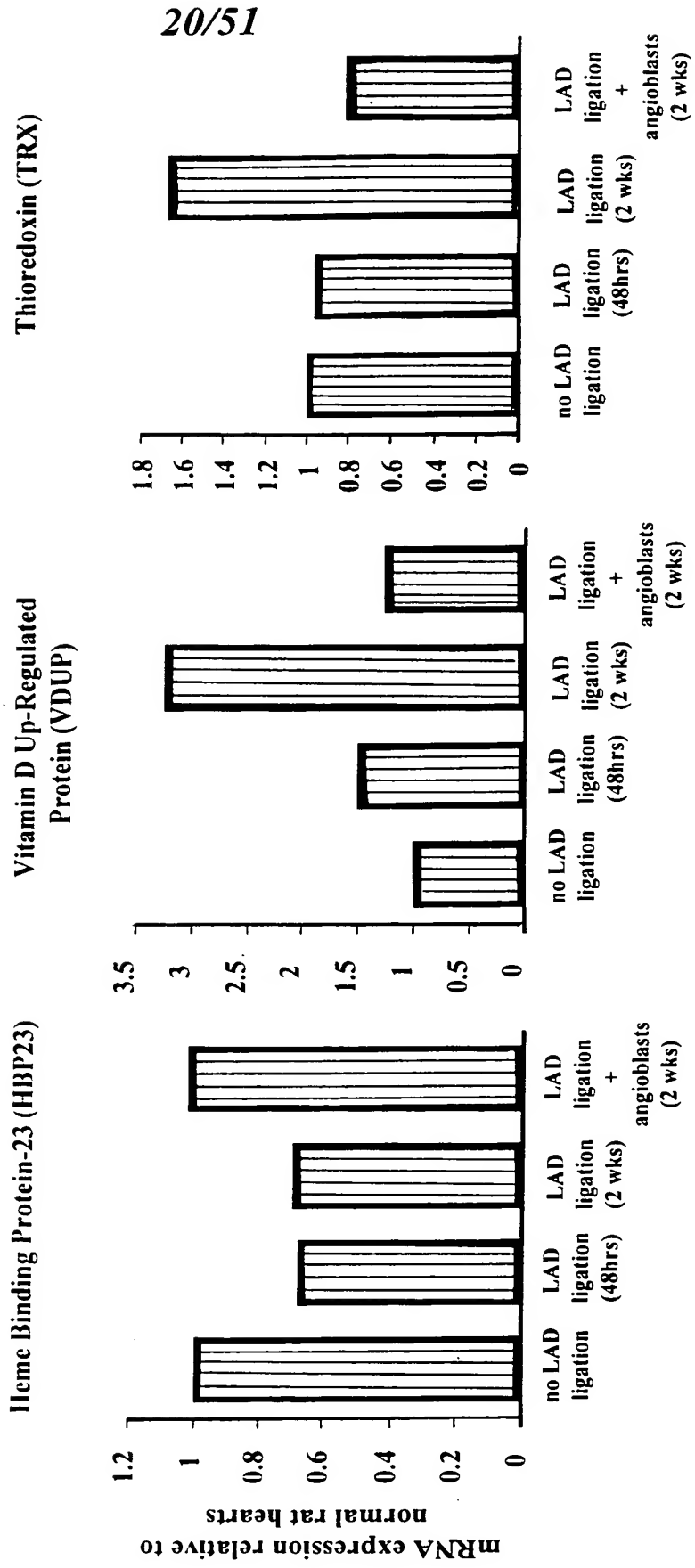


FIGURE 6

```

1 aaactaacc cttctttttt ccaaaggagt gcttgtggag atcggatctt ttctccagca
61 attgggggaa agaaggcttt ttctctgact tcgcttagtg taaccagcgg cgtatatatt
121 ttaggcgcct ttctgaaaac ctagttagta atattcattt gtttaaattc tattttattt
181 ttaagctcaa actgcttaag aataccttaa ttctttaaag tgaaataatt ttttgcaaag
241 gggtttcctc gatttggagc ttttttttcc ttccaccgtc atttctaact cttaaaacca
301 actcagttcc atcatggtga tgttcaagaa gatcaagtct tttgaggtgg tctttaacga
361 ccctgaaaag gtgtacggca gtggcgagaa ggtggctggc cgggtgatag tggaggtgtg
421 tgaagttact cgtgtcaaag ccgttaggat cctggcttgc ggagtggcta aagtgtttg
481 gatgcaggga tcccagcagt gcaaacagac ttcggagtac ctgcgctatg aagacacgct
541 tcttctggaa gaccagccaa caggtgagaa tgagatggtg atcatgagac ctggaaacaa
601 atatgagtac aagttcggct ttgagcttcc tcaggggcct ctgggaacat ccttcaaagg
661 aaaatatggg tgtgtagact actgggtgaa ggcttttctt gaccgcccga gccagccaac
721 tcaagagaca aagaaaaact ttgaagtagt ggatctgggt gatgtcaata cccctgattt
781 aatggcacct gtgtctgcta aaaaagaaaa gaaagtttcc tgcagtgtca ttctgatgg
841 gcgggtgtct gtctctgctc gaattgacag aaaaggattc tgtgaagggt atgagatttc
901 catccatgct gactttgaga atacatgttc ccgaattgtg gtccccaagg ctgccattgt
961 ggcccggcac acttaccttg ccaatggcca gaccaagggt ctgactcaga agttgtcatc
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1141 actgatctat gttagcgttc ctggatccaa gaaggctcat cttgacctgc ccctggtaat
1201 tggcagcaga tcaggtctaa gcagcagaac atccagcatg gccagccgaa ccagctctga
1261 gatgagttgg gtagatctga acatccctga taccacagaa gctcctccct gctatatgga
1321 tgtcattcct gaagatcacc gattggagag cccaaccact cctctgctag atgacatgga
1381 tggctctcaa gacagcccta tctttatgta tgcccctgag ttcaagttca tgccaccacc
1441 gacttatact gaggtggatc cctgcattct caacaacaat gtgcagttag catgtggaag
1501 aaaagaagca gctttaccta cttgtttctt tttgtctctc ttctggaca ctcacttttt
1561 cagagactca acagtctctg caatggagtg tgggtccacc ttagcctctg acttccctaat
1621 gtaggaggtg gtcagcaggc aatctcctgg gccttaaagg atgcggactc atcctcagcc
1681 agcgcctcatg ttgtgatata ggggtgtttg ttggatgggt ttaaaaaata tagtttcggg
1741 tcaggcccat ccattttctc agatctcctt gaaaattgag gccttttcga tagtttcggg
1801 tcaggtaaaa atggcctcct ggcgtaagct tttcaagggt ttttgagggc tttttgtaaa
1861 ttgtgatagg aactttggac cttgaactta cgtatcatgt ggagaagagc caatttaaca
1921 aactaggaag atgaaaaggg aaattgtggc caaaactttg ggaaaaggag gttcttaaaa
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2041 atggacaatg gagagagctt tccctgtgat tataaaaaag gaagctagct gctctacggt
2101 catctttgct taagagtata ctttaacctg gcttttaaag cagtagtaac tgccccacca
2161 aaggctctaa aagccatttt tggagcctat tgcactgtgt tctcctactg caaatatttt
2221 catatgggag gatgggtttt tcttcattga agtccttgga attgattcta aggtgatgtt
2281 cttagcactt taattcctgt caaatttttt gttctccctt tctgccatct taaatgtaag
2341 ctgaaactgg tctactgtgt ctctagggtt aagccaaaag acaaaaaaaa ttttactact
2401 tttgagattg cccaatgta cagaattata taattctaac gcttaaatac tgtgaaaggg
2461 ttgctgctgt cagccttgcc cactgtgact tcaaacccaa ggaggaactc ttgatcaaga
2521 tgcccaaccc tgtgatcaga acctccaaat actgccatga gaaactagag ggcaggtctt
2581 cataaaagcc ctttgaaccc ccttcctgcc ctgtgttagg agatagggat attggcccct
2641 cactgcagct gccagcactt ggtcagtcac tctcagccat agcactttgt tcaactgtcct
2701 gtgtcagagc actgagctcc acccttttct gagagttatt acagccagaa agtgtgggct
2761 gaagatgggt ggtttcatgt

```

FIGURE 7

```

314      ATggtgA Tgttcaagaa gATcaagtct tttgaggtgg tctttaacga
361 ccctgaaaaag gtgtacggca gtggcgagaa ggtggctggc cgggtgATag tggaggtgtg
421 tgaagttact cgtgtcaag ccgttaggAT cctggcttgc ggagtggcta aagtgccttg
481 gATgcaggga Tcccagcagt gcaaacagac ttcggagtag ctgcgctATg aagacacgct
541 tcttctggaa gaccagccaa caggtgagaa TgagATggtg ATcATgagac ctggaaacaa
601 ATATgagtag aagttcggct ttgagcttcc tcaggggcct ctgggaacAT ccttcaaaag
661 aaaATATggg tgtgtagact actgggtgaa ggcttttctt gaccgcccga gccagccaac
721 tcaagagaca aagaaaaact ttgaagtagt ggATctggtg gATgtcaATa cccctgATtt
781 aATggcacct gtgtctgcta aaaaagaaaa gaaagtctcc tgcATgttca TtcctgATgg
841 gcgggtgtct gtctctgctc gaATtgacag aaaaggATtc tgtgaaggtg ATgagATttc
901 cATccATgct gactttgaga ATacATgttc ccgaATTgtg gtccccaaag ctgccATtgt
961 ggcccggcac acttaccttg ccaATggcca gaccaaggtg ctgactcaga agttgtcATc
1021 agtcagaggc aATcATATtA Tctcagggac ATgcgcATca Tggcgtggca agagccttcg
1081 ggttcagaag ATcaggcctt ctATcctggg ctgcaacATc cttcgagttg aATATtcctt
1141 actgATctAT gttagcgttc ctggATccaa gaaggctcATc cttgacctgc ccctggtaAT
1201 tggcagcaga Tcagggtctaa gcagcagaac ATccagcATg gccagccgaa ccagctctga
1261 gATgagttgg gtagATctga acATccctgA Taccagaa gctcctccct gctATATggA
1321 TgtcATtcct gaagATcacc gATTggagag cccaaccact cctctgctag ATgacATggA
1381 Tggctctcaa gacagccctA TctttATgtA Tgccccctgag ttcaagttcA Tgccaccacc
1441 gacttATact gaggtggATc cctgcATcct caacaacaAT gtgcagtgga

```

FIGURE 8

```

314      atggtga      tgttcaagaa      gatcaagtct      tttgagggtgg      tctttaacga
361      ccctgaaaag      gtgtacgGCa      ggtgGctgGC      cgggtgatag      tggagggtgtg
421      tgaagttact      cgtgtcaaaG      Ccgttaggat      cctgGcttGC      aagtGctttg
481      gatGCaggga      tcccaGCagt      GCaacagac      ttcggagtag      ctGGCtatg      aagacacGct
541      tcttctggaa      gaccaGCcaa      caggtgagaa      tgagatggtg      atcatgagac      ctggaaaacaa
601      atatgagtac      aagttcgGct      ttgaGcttcc      tcagggGCct      ctgggaacat      ccttcaaagg
661      aaaatatggg      tgtgtagact      actgggtgaa      gGcttttctt      gaccGCCcga      GCcaGCCaac
721      tcaagagaca      aagaaaaact      ttgaagtagt      ggatctggtg      gatgtcaata      cccctgattt
781      aatgGCacct      gtgtctGcta      aaaaagaaaa      gaaagtctcc      tGCatgttca      ttctgatgg
841      GCgggtgtct      gtctctGctc      gaattgacag      aaaaggattc      tgtgaagggtg      atgagatttc
901      catccatGct      gactttgaga      atacatgttc      ccgaattgtg      gtcccaaaG      CtGCCattgt
961      gGccCGccac      acttaccttG      CcaatgGCca      gaccaagggtG      Ctgactcaga      agttgtcatc
1021      agtcagagGC      aatcataatta      tctcagggac      atGCCGatca      tgGCgtgGCa      agaGCcttcg
1081      ggttcagaag      atcagGCctt      ctatcctggG      CtGCaacatc      cttcgagttg      aatatccctt
1141      actgatctat      gttagCgttc      ctggatccaa      gaagggtcatc      cttgacctGC      ccctggtaat
1201      tgGCaGCaga      tcagggtctaa      GCaGCagaac      atccaGCatg      GCcaGCCgaa      ccaGCtctga
1261      gatgagttgg      gtagatctga      acatccctga      taccacagaa      Gctccctccct      Gctatatgga
1321      tgtcattcct      gaagatcacc      gattggagaG      Ccaaaccact      cctctGctag      atgacatgga
1381      tgGctctcaa      gacaGCccta      tctttatgta      tGCCcctgag      ttcaagttca      tGCCaccacc
1441      gacttatact      gaggtggatc      cctGCatcct      caacaacaat      gtGCagtga

```

FIGURE 9

```

314      atgGTga  tGTTcaagaa  gatcaaGTct  tttgagGTgG  Tctttaacga
361  ccctgaaaag  GTGTacggca  GTggcgagaa  gGTggctggc  cggGTgataG  TggagGTGTG
421  TgaagTtact  cGTGTcaaaG  ccGTTaggat  cctggcttgc  ggaGTggcta  aaGTgctttg
481  gatgcaggga  tcccagcaGT  gcaaacagac  ttcggaGTac  ctgcgctatg  aagacacgct
541  tcttctggaa  gaccagccaa  cagGTgagaa  tgagatgGTg  atcatgagac  ctggaaaacaa
601  atatgaGTac  aAGTtcggct  ttgagcttcc  tcaggggcct  ctgggaacat  ccttcaaaag
661  aaaatatggG  TGTGTagact  actggGTgaa  ggcttttctt  gaccgcccga  gccagccaac
721  tcaagagaca  aagaaaaact  ttgaaGTaGT  ggatctgGTg  gatGTcaata  cccctgattt
781  aatggcacct  GTGTctgcta  aaaaagaaaa  gaaAGTttcc  tgcATGTtca  ttcctgatgg
841  gcggGTGTct  GTctctgctc  gaattgacag  aaaaggattc  tGTgaagGTg  atgagatttc
901  catccatgct  gactttgaga  atacATGttc  ccgaattGTg  GTccccaaag  ctgccattGT
961  gccccgccac  acttaccttg  ccaatggcca  gaccaagGTg  ctgactcaga  aGTtGTcatc
1021 aGTcagaggc  aatcataatta  tctcagggac  atgcgcatca  tggcGTggca  agagccttcg
1081 gGTtcagaag  atcaggcctt  ctatcctggg  ctgcaacatc  cttcgaGTtg  aatattcctt
1141 actgatctat  GTtagcGTtc  ctggatccaa  gaagGTcatc  cttgacctgc  ccctgGTaat
1201 tggcagcaga  tcagGTctaa  gcagcagaac  atccagcatg  gccagccgaa  ccagctctga
1261 gatgaGttgg  GTagatctga  acatccctga  taccctcagaa  gctcctccct  gctatatgga
1321 tGTcattcct  gaagatcacc  gattggagag  cccaaccact  cctctgctag  atgacatgga
1381 tggctctcaa  gacagcccta  tctttatGTa  tgccccctgaG  TtcaaGTtca  tgccaccacc
1441 gacttatact  gagGTggatc  cctgcatcct  caacaacaat  GtgcaGTga

```


FIGURE 10

```

314          atggtga  tgttcaagaa  gatcaagtct  tttgaggtgg  tctttaACgA
361  Ccctgaaaag  gtgtACggca  gtggcgagaa  ggtggctggc  cgggtgatag  tggaggtgtg
421  tgaagtTACt  cgtgtcaaag  ccgttaggat  cctggcttgc  ggagtggcta  aagtgccttg
481  gatgcaggga  tcccagcagt  gcaaACagAC  ttcggagtAC  ctgcgctatg  aagACACgct
541  tcttctggaa  gACcagccaA  Caggtgagaa  tgagatggtg  atcatgagAC  ctggaaACaa
601  atatgagtAC  aagttcggct  ttgagcttcc  tcaggggcct  ctgggaACat  ccttcaaagg
661  aaaatatggg  tgtgtagACt  ACTgggtgaa  ggcttttctt  gACcgcccg  gccagccaAC
721  tcaagagACa  aagaaaaACt  ttgaagtagt  ggatctggtg  gatgtcaatA  Cccctgattt
781  aatggcACct  gtgtctgcta  aaaaagaaaa  gaaagtctcc  tgcattgttc  ttcctgatgg
841  gcgggtgtct  gtctctgctc  gaattgACag  aaaaggattc  tgtgaagggtg  atgagatttc
901  catccatgct  gACtttgaga  atACatgttc  ccgaattgtg  gtccccaagg  ctgccattgt
961  ggcccgccAC  ACTtACcttg  ccaatggcca  gACcaaagg  ctgACtcaga  agttgtcatc
1021 agtcagaggc  aatcatatta  tctcagggAC  atgctgcata  tggcgtggca  agagccttcg
1081 gggttcagaag  atcaggcctt  ctatcctggg  ctgcaACatc  cttcgagtg  aatatcctt
1141 ACTgatctat  gttagcgttc  ctggatccaa  gaaggctcatc  cttgACctgc  ccctggtaat
1201 tggcagcaga  tcaggtctaa  gcagcagaAC  atccagcatg  gccagccgaa  Ccagctctga
1261 gatgagttgg  gtagatctga  ACatccctga  tACcccagaa  gctcctcct  gctatatgga
1321 tgtcattcct  gaagatcACc  gattggagag  cccaACcACt  cctctgctag  atgACatgga
1381 tggctctcaa  gACagcccta  tctttatgta  tgcccctgag  ttcaagttca  tgccACcACc
1441 gACttatACt  gaggtggatc  cctgcatcct  caACaACaat  gtgcagtgga

```

FIGURE 11

```

314      atggtga      tgTTcaagaa      gaTcaagTcT      TTtgaggTgG      TcTTTaacga
361      ccctgaaaag      gtGTacggca      gtggcgagaa      ggtggctggc      cgggtgaTAg      tggaggTgtg
421      tgaagTTact      cgtGTcaaaG      ccgTTaggat      cctggcTtgc      ggagtggcTa      aagtgcTTtg
481      gatgcaggga      Tcccagcagt      gcaaacagac      TTcggagTAc      ctgcgCTatg      aagacacgCT
541      TcTTctggaa      gaccagccaa      caggtgagaa      tgagatggTg      aTcatgagac      ctggaaacaa
601      aTatgagTac      aagTTcggcT      TtgagcTTcc      Tcagggggcct      ctgggaacaT      ccTTcaaaag
661      aaaaTatggg      tgtGTagact      actgggtgaa      ggcTTTtTcTt      gaccgcccga      gccagccaaC
721      Tcaagagaca      aagaaaaact      TtgaagTagt      ggaTctggTg      gatGTcaaTa      cccctgaTTT
781      aatggcacct      gtGTctgcTa      aaaaagaaaa      gaaagTTTcc      tgcagTTca      TTcctgatgg
841      gcgggtgTct      gTcTctgcTc      gaaTtgacag      aaaaggatTc      tgtgaaggTg      atgagaTTTc
901      caTccatgct      gacTTtgaga      aTacatgTTc      ccgaaTtgtg      gTccccaaag      ctgccatTgt
961      gcccgcacc      acTTaccTtg      ccaatggcca      gaccaaggTg      ctgacTcaga      agTtGTcaTc
1021      agTcagaggc      aaTcaTaTta      TcTcagggac      atgcgcATca      tggcgtggca      agagccTTcg
1081      ggTTcagaaG      aTcaggccTT      cTaTccctggg      ctgcaacaTc      cTTcGagTtg      aaTaTTccTT
1141      actgaTcTat      gTTagcGTTc      ctggaTccaa      gaaggTcaTc      cTTgaccctgc      ccctggTaat
1201      tggcagcaga      TcaggTcTaa      gcagcagaac      aTccagcatg      gccagccgaa      ccagcTctga
1261      gatgagTtgg      gTagaTctga      acaTcccctga      Taccacagaa      gCTccTccct      gcTaTatgga
1321      tgTcaTTcct      gaagaTcacc      gatTggagag      cccaaccact      ccTctgcTag      atgacatgga
1381      tggcTcTcaa      gacagcccTa      TcTTtatgTa      tgcccctgag      TTcaagTTca      tgccaccacc
1441      gactTaTact      gaggtggaTc      cctgcaTcct      caacaacaat      gtgcagTga

```

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FIGURE 12

| DNAzyme conc. | | 0.05 μ M | | | 0.5 μ M | | | 5 μ M | | | | | | |
|---------------|---|--------------|----|-----|-------------|---|----|-----------|-----|---|---|----|----|-----|
| time (mins) | 0 | 5 | 60 | 120 | 0 | 5 | 20 | 60 | 120 | 0 | 5 | 20 | 60 | 120 |



FIGURE 13A

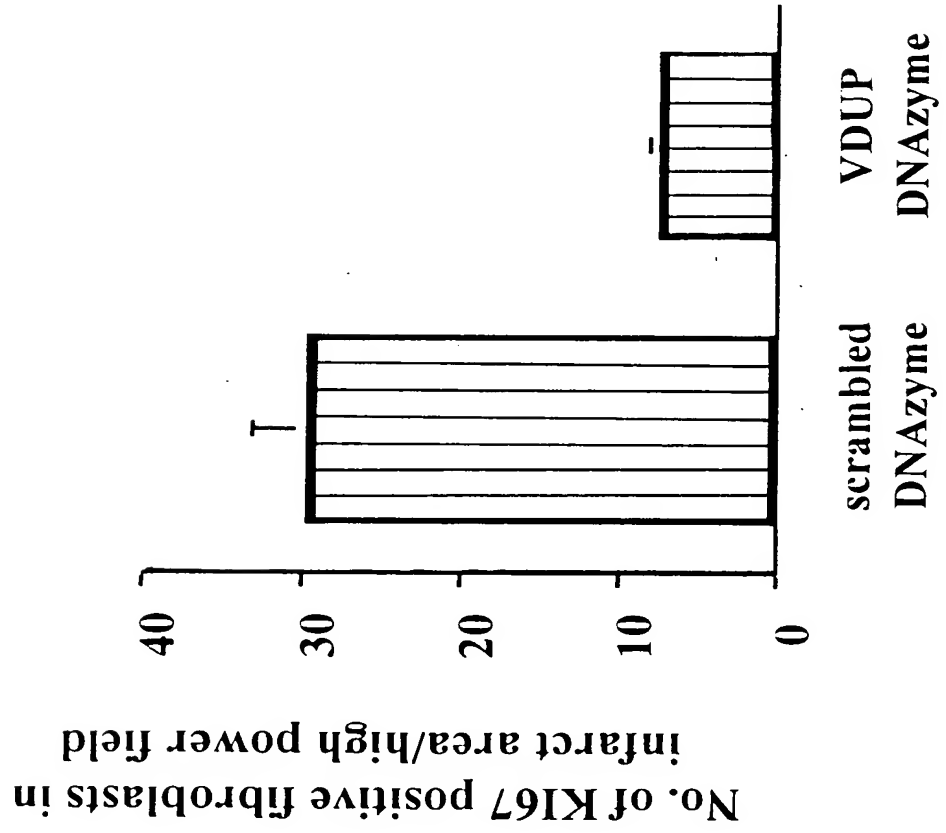


FIGURE 13B

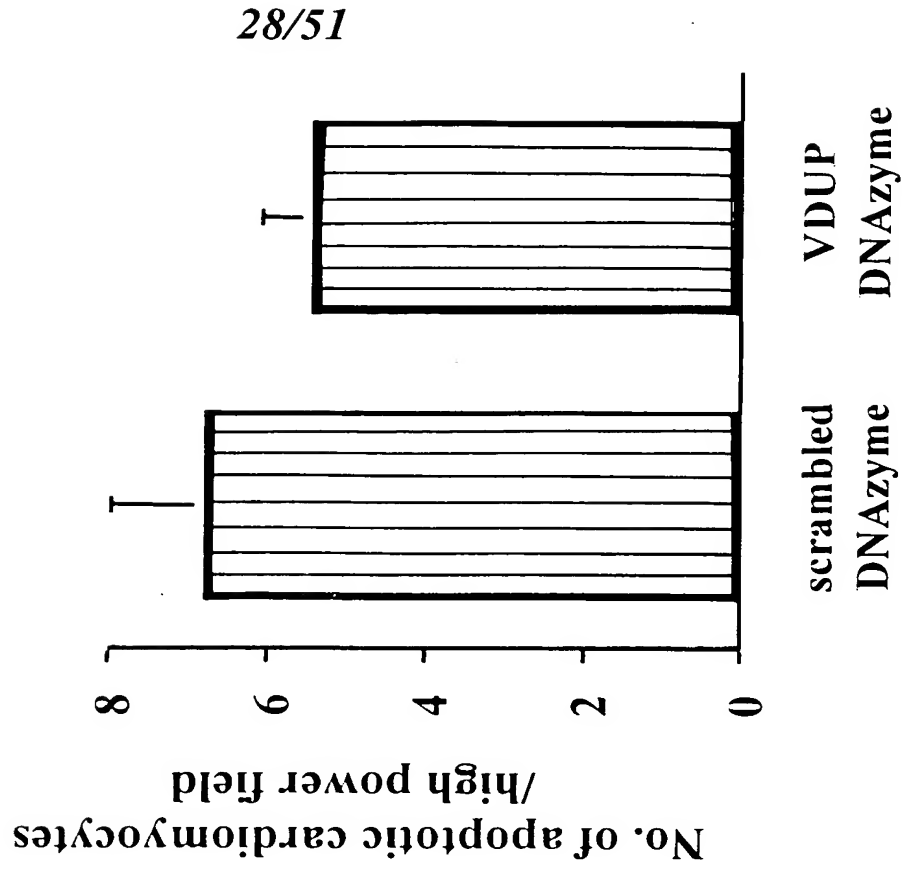


FIGURE 14A

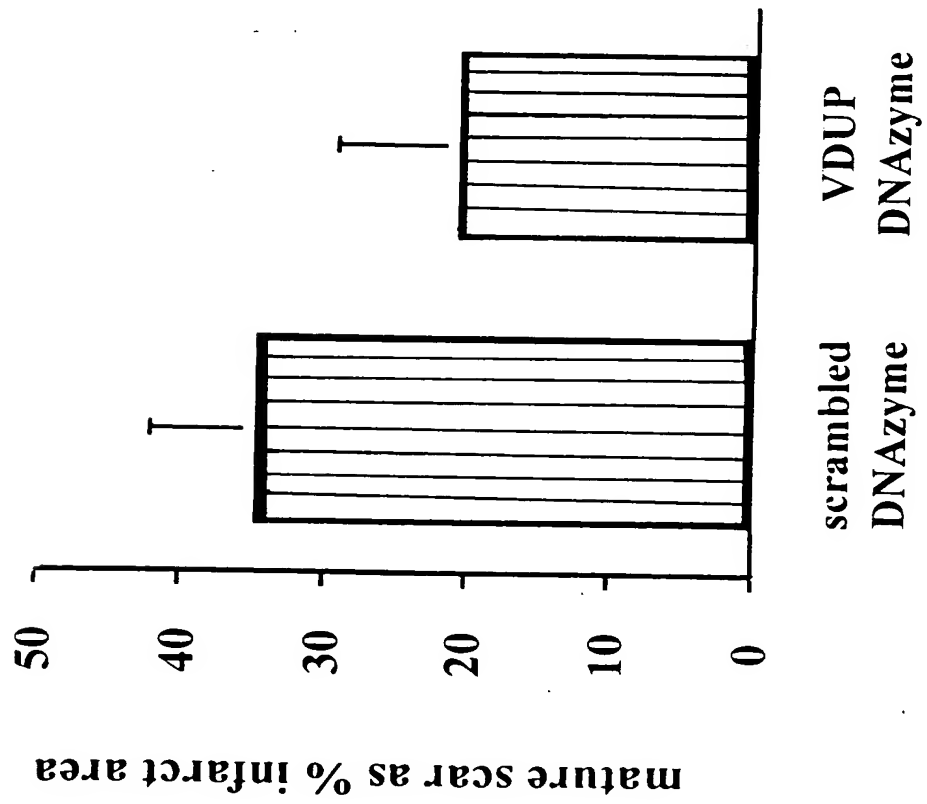


FIGURE 14B

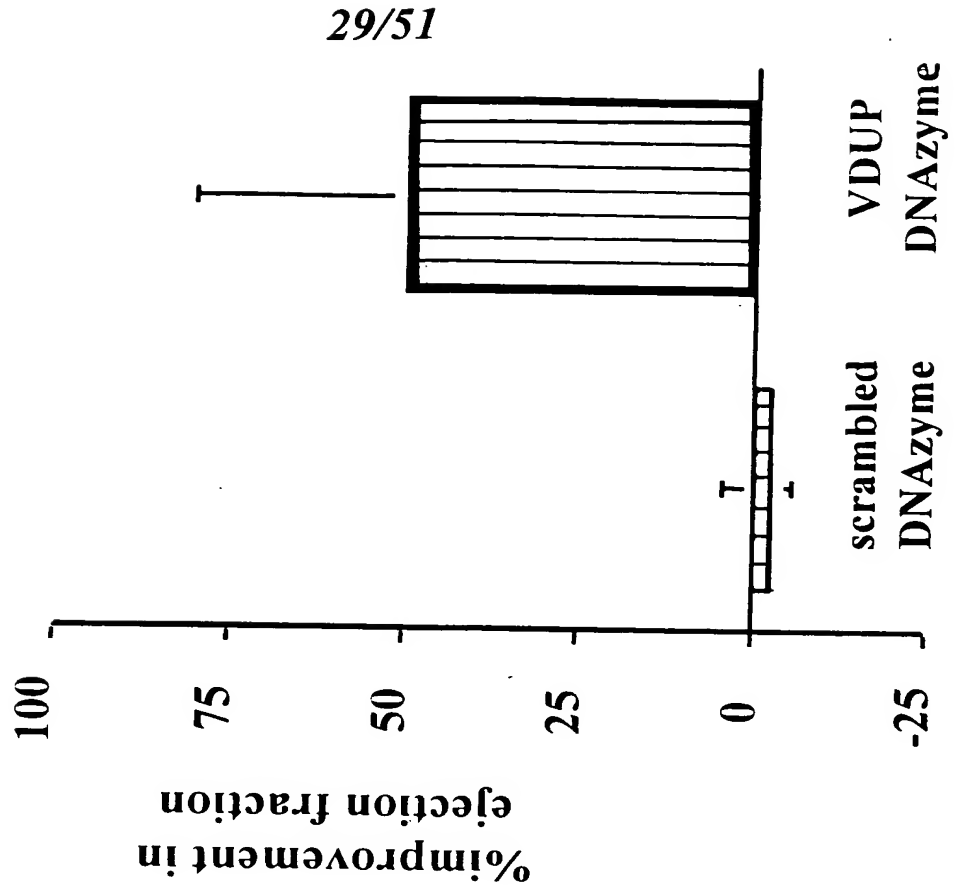


FIGURE 15A

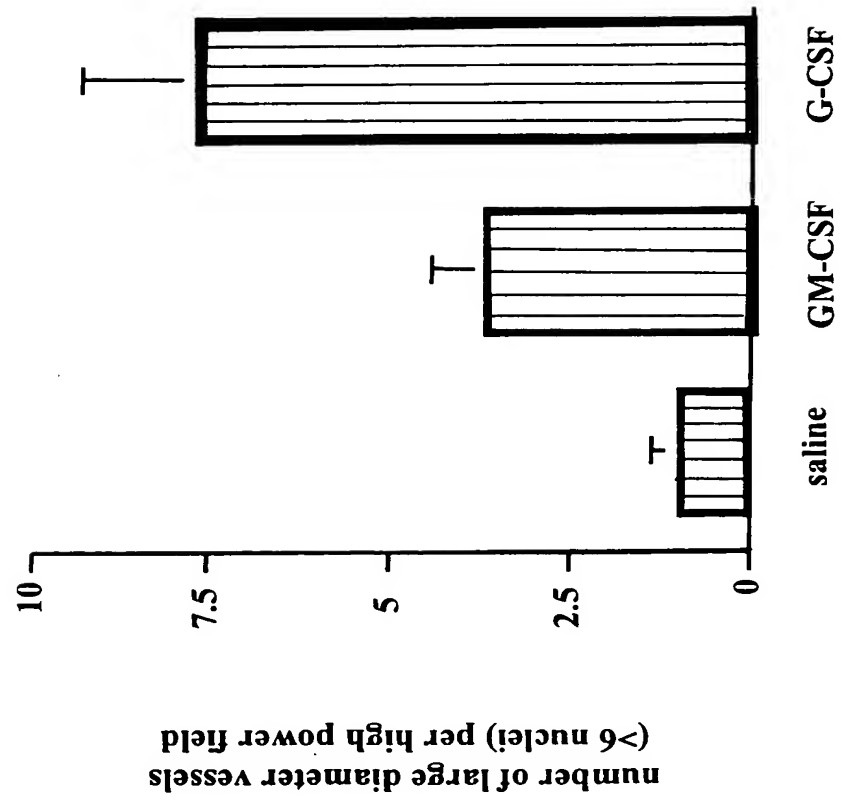


FIGURE 15B

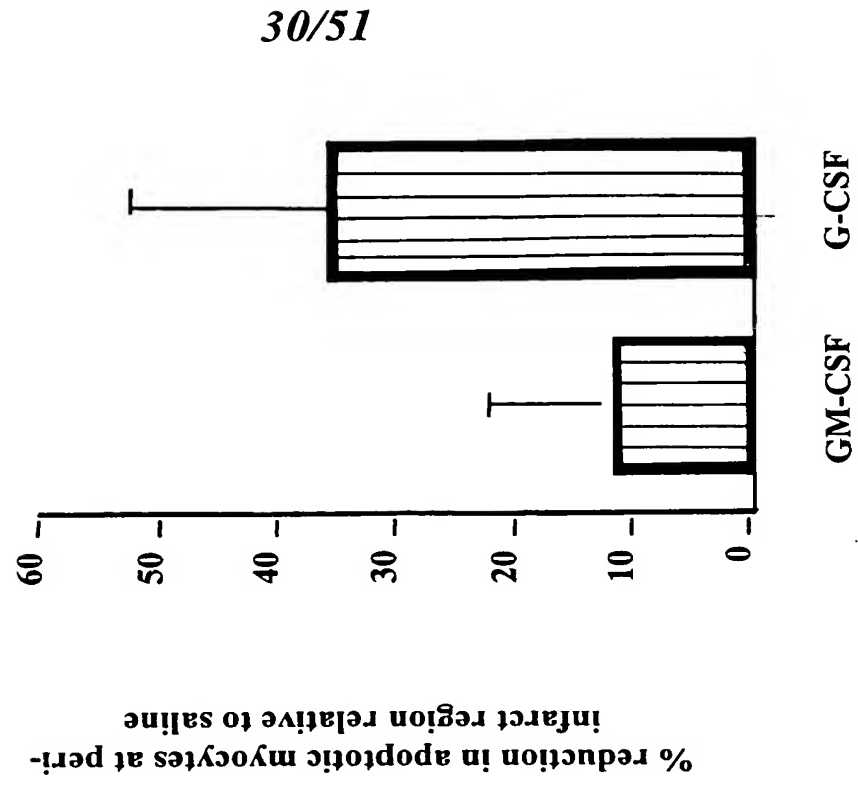


FIGURE 16A

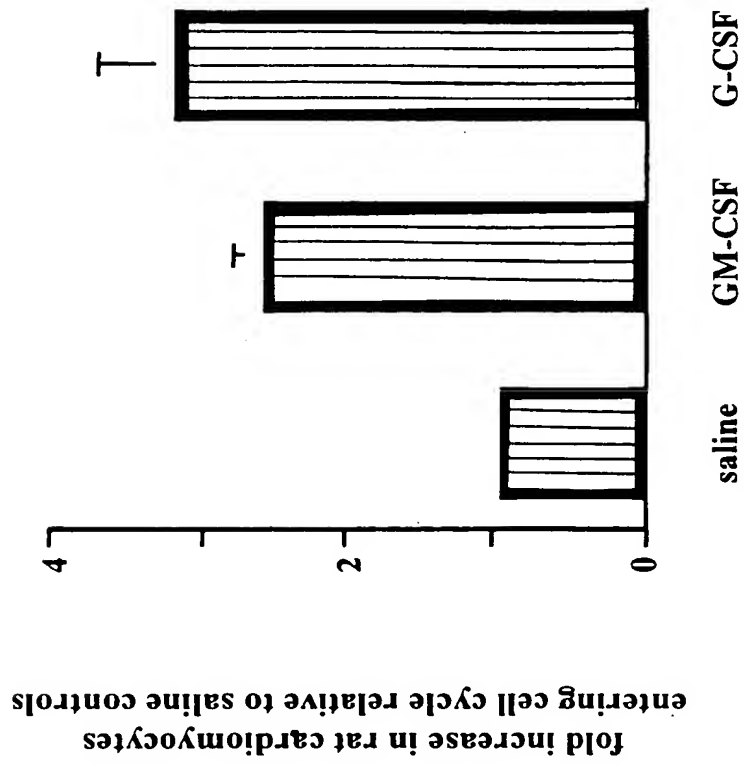


FIGURE 16B

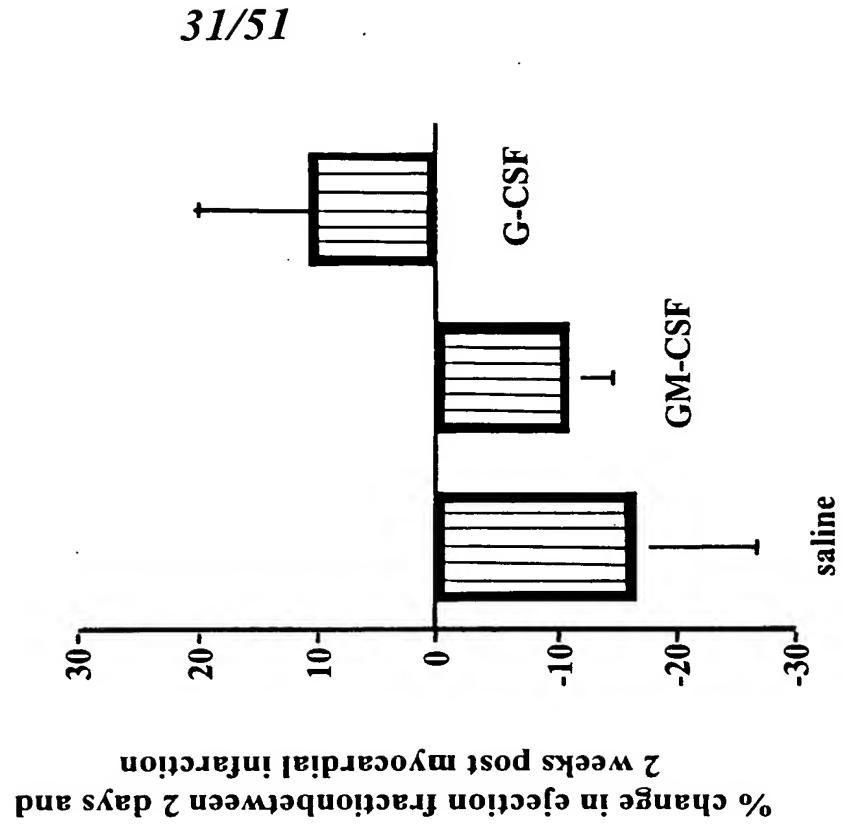


FIGURE 17A

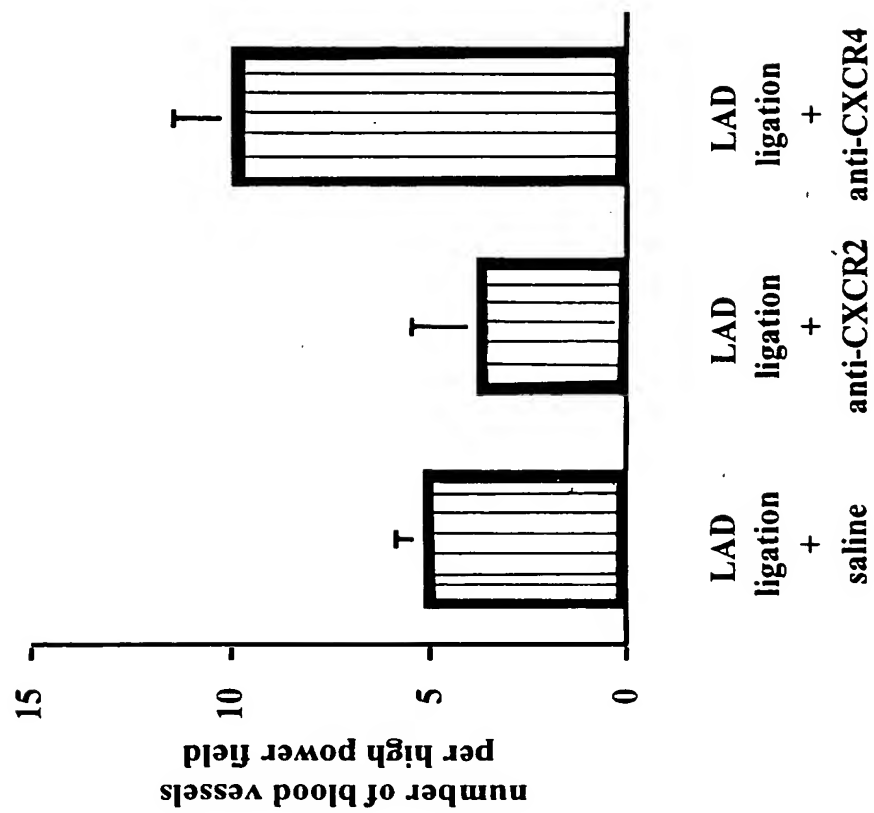


FIGURE 17B

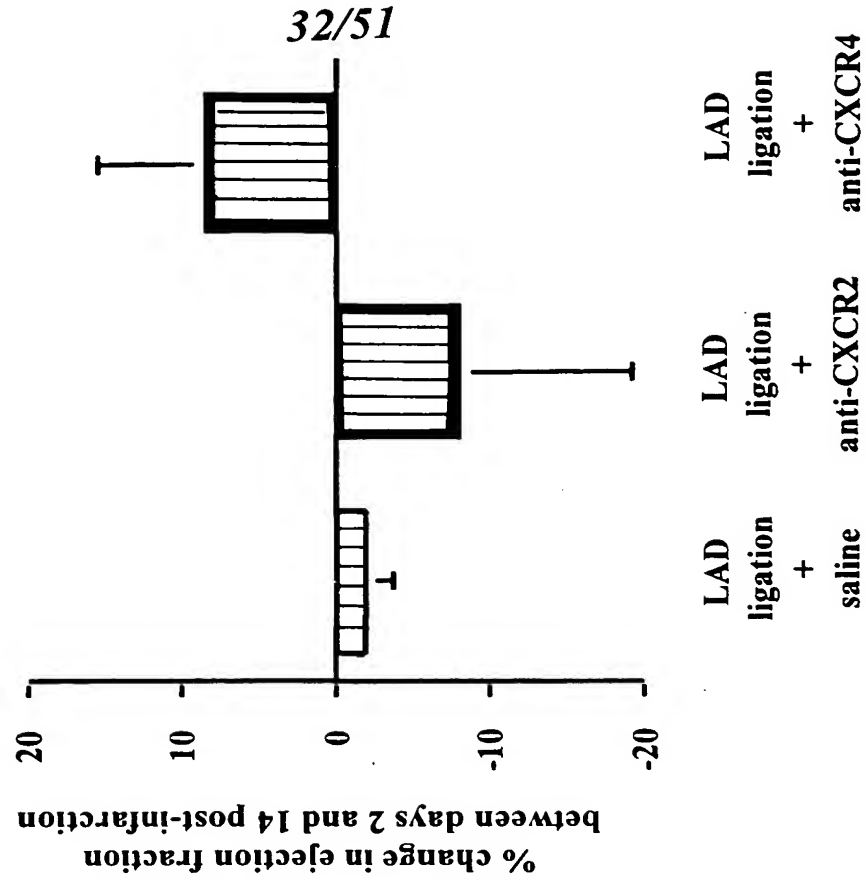


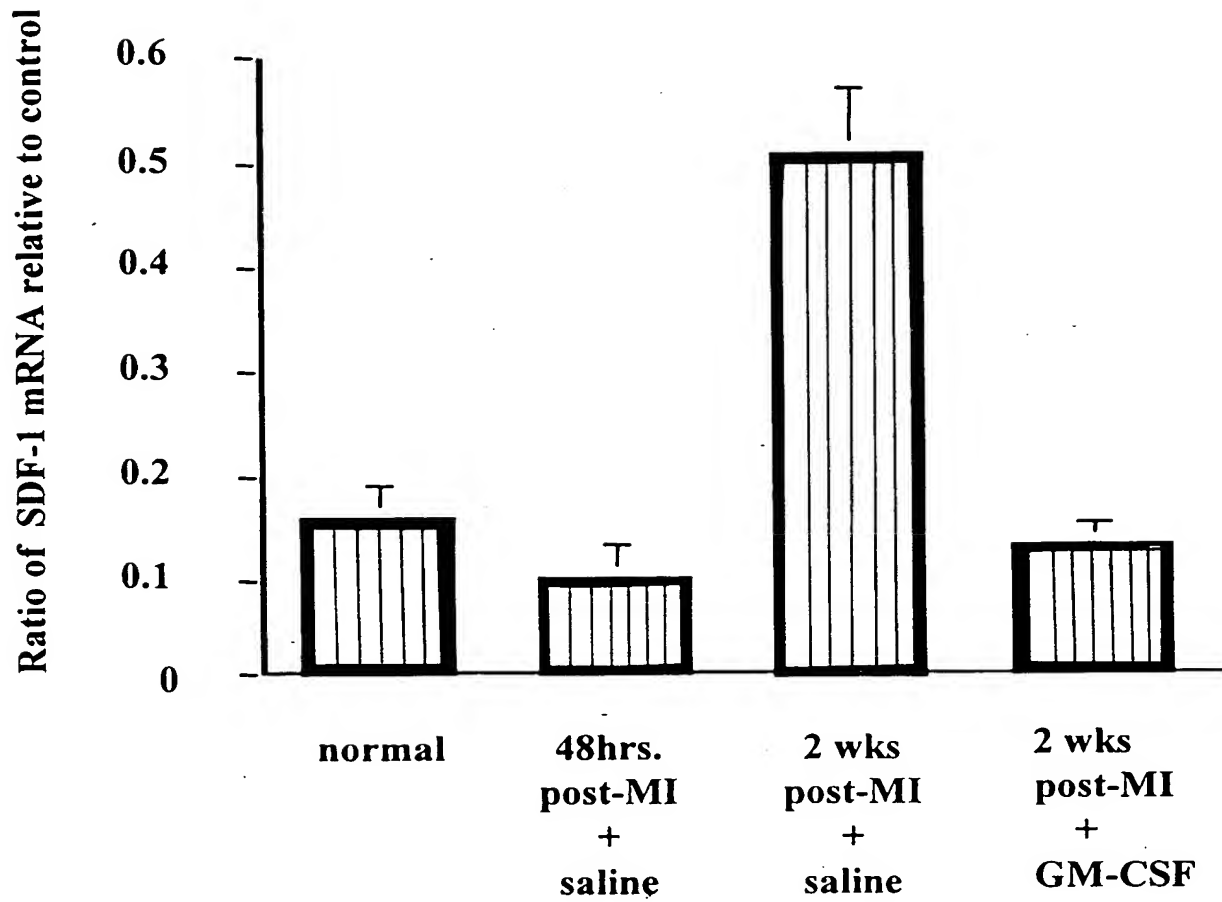
FIGURE 18

FIGURE 19A

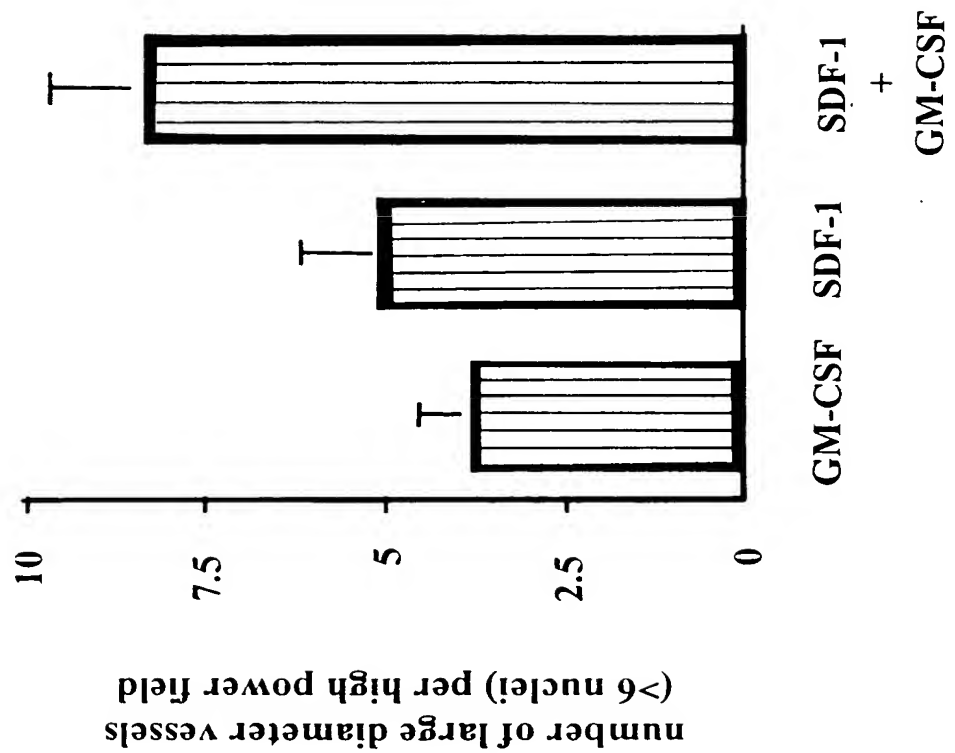


FIGURE 19B



FIGURE 20A

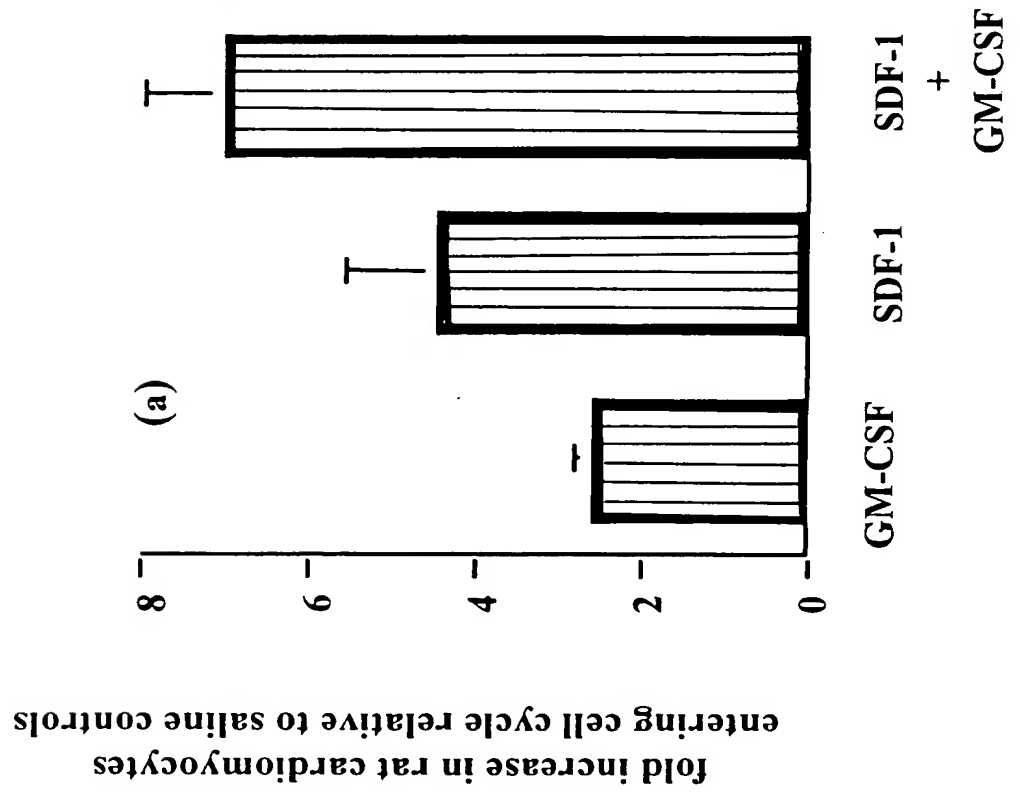


FIGURE 20B

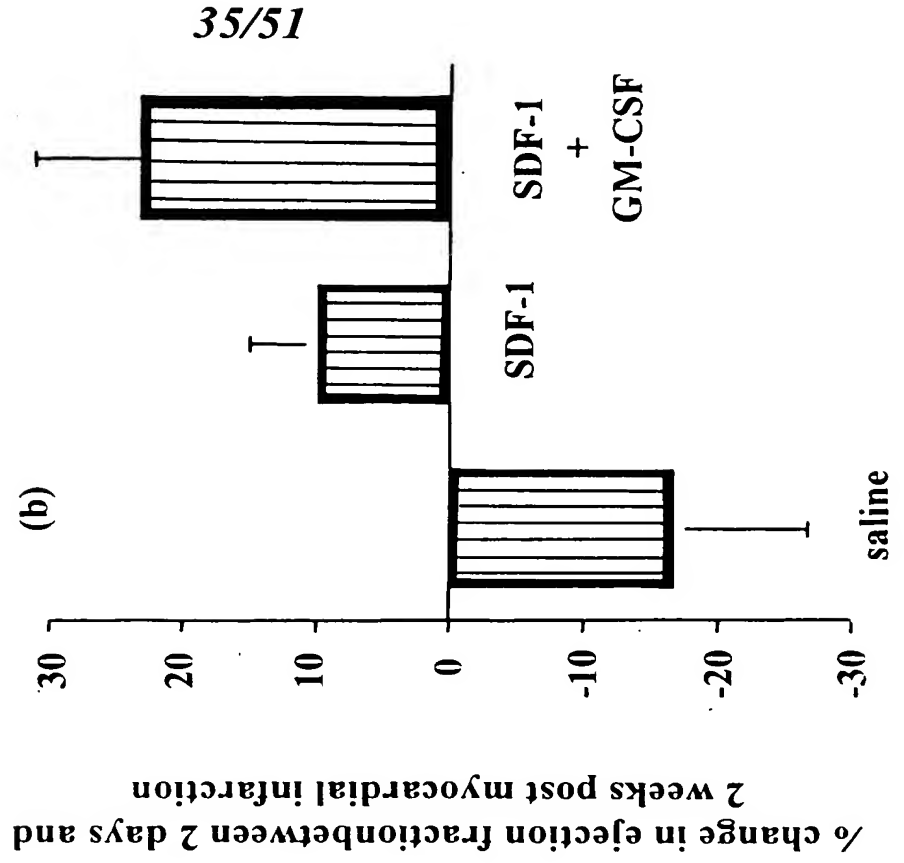


FIGURE 21A

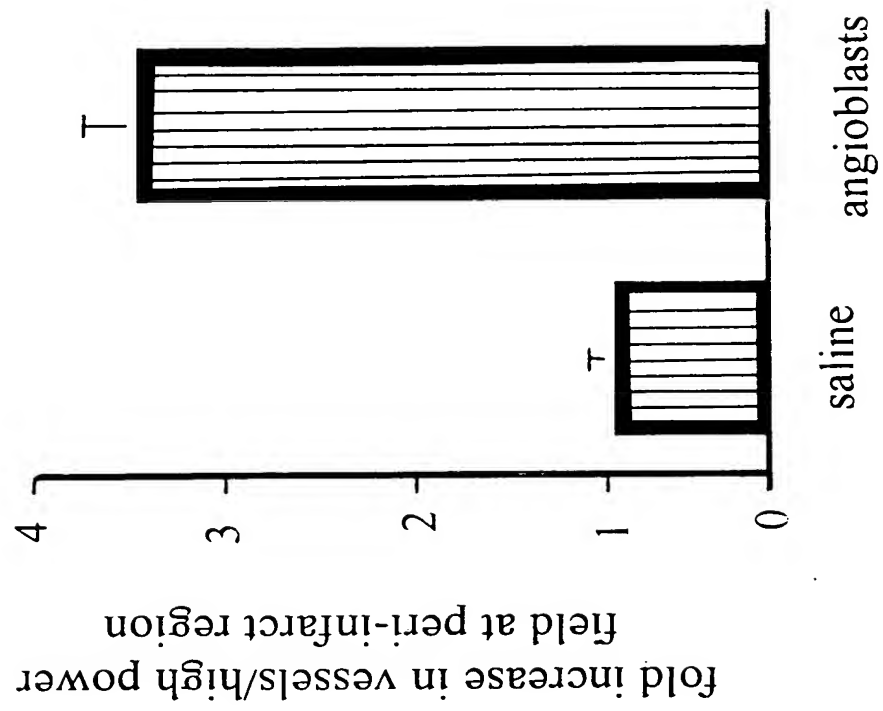


FIGURE 21B

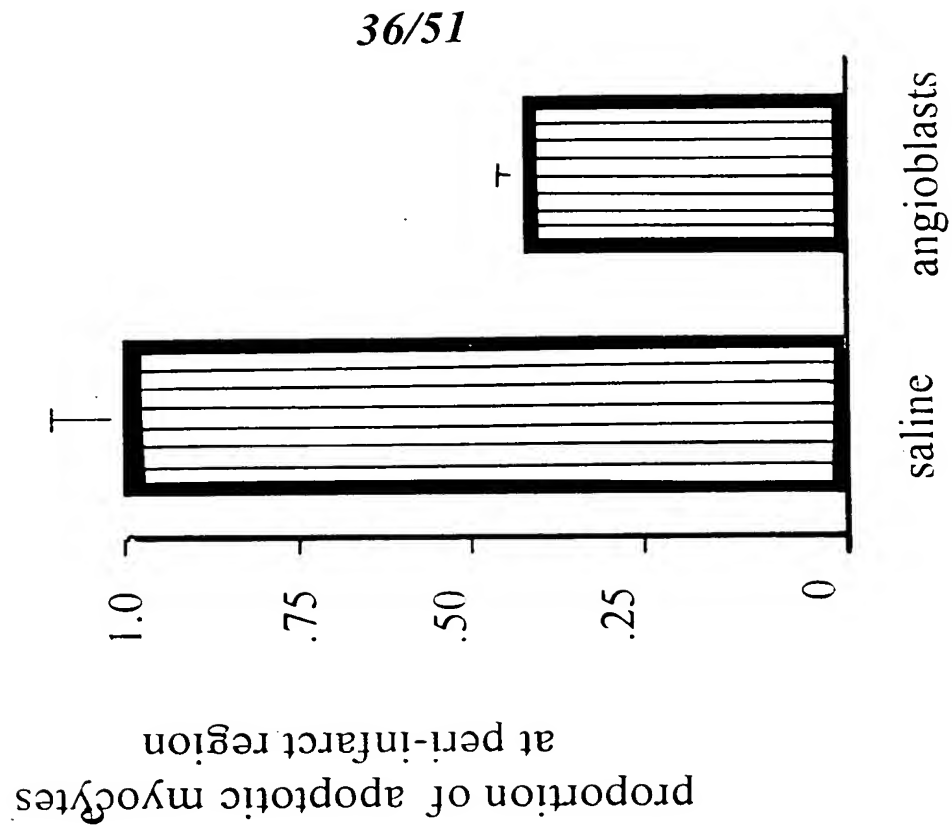


FIGURE 22A**Early Proliferation/ Regeneration Of Immature Cardiomyocyte
Lineage Progenitors Accompanying Neovascularization**

(confocal microscopy: red nucleus, yellow Ki67, blue cytoplasm alpha-sarcomeric actin)

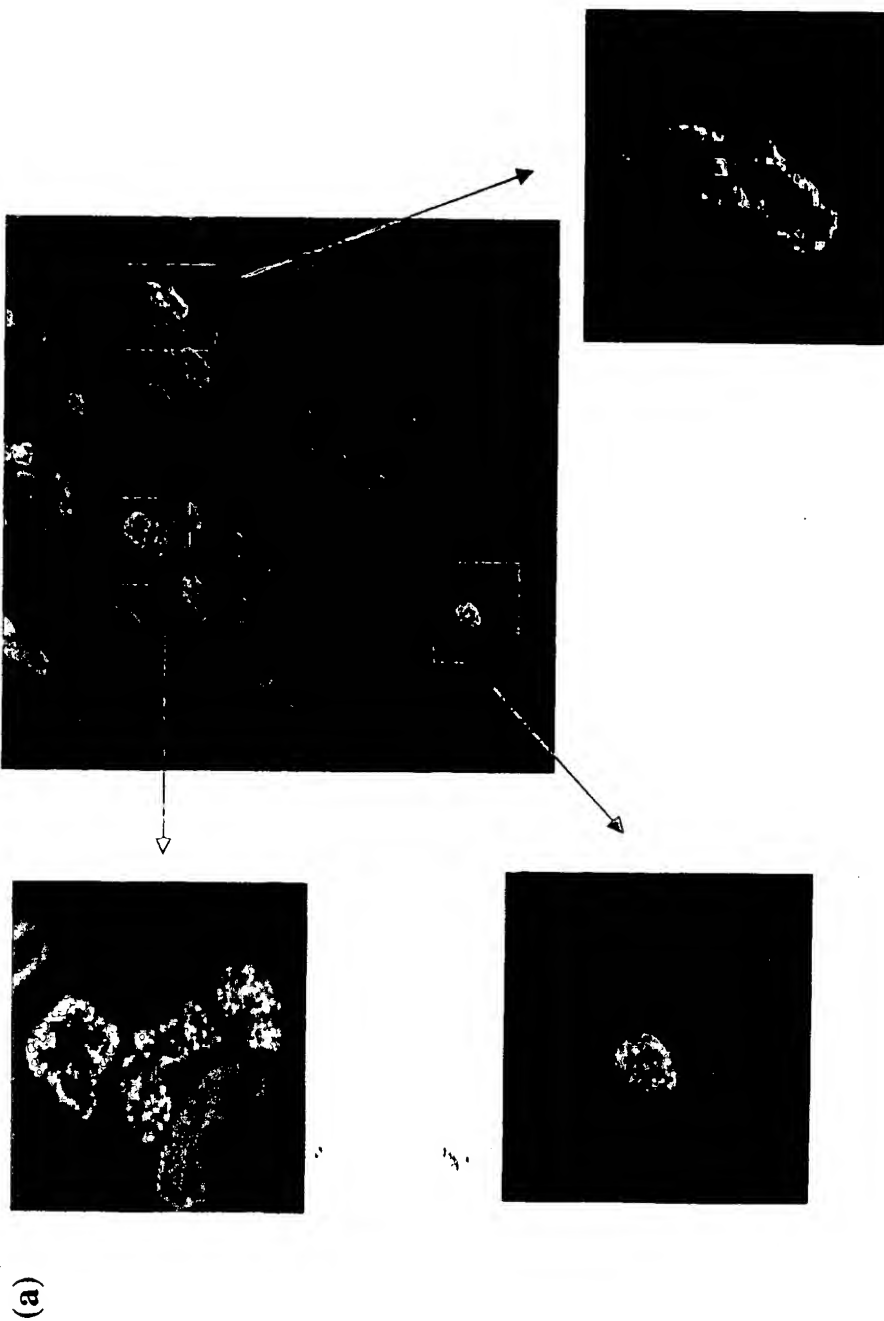


FIGURE 22B

**(b) Later Differentiation And Regeneration Of Mature Cardiomyocytes
Accompanying Neovascularization**

(immunohistochemistry: blue nucleus rat Ki67, brown cytoplasm troponin I)

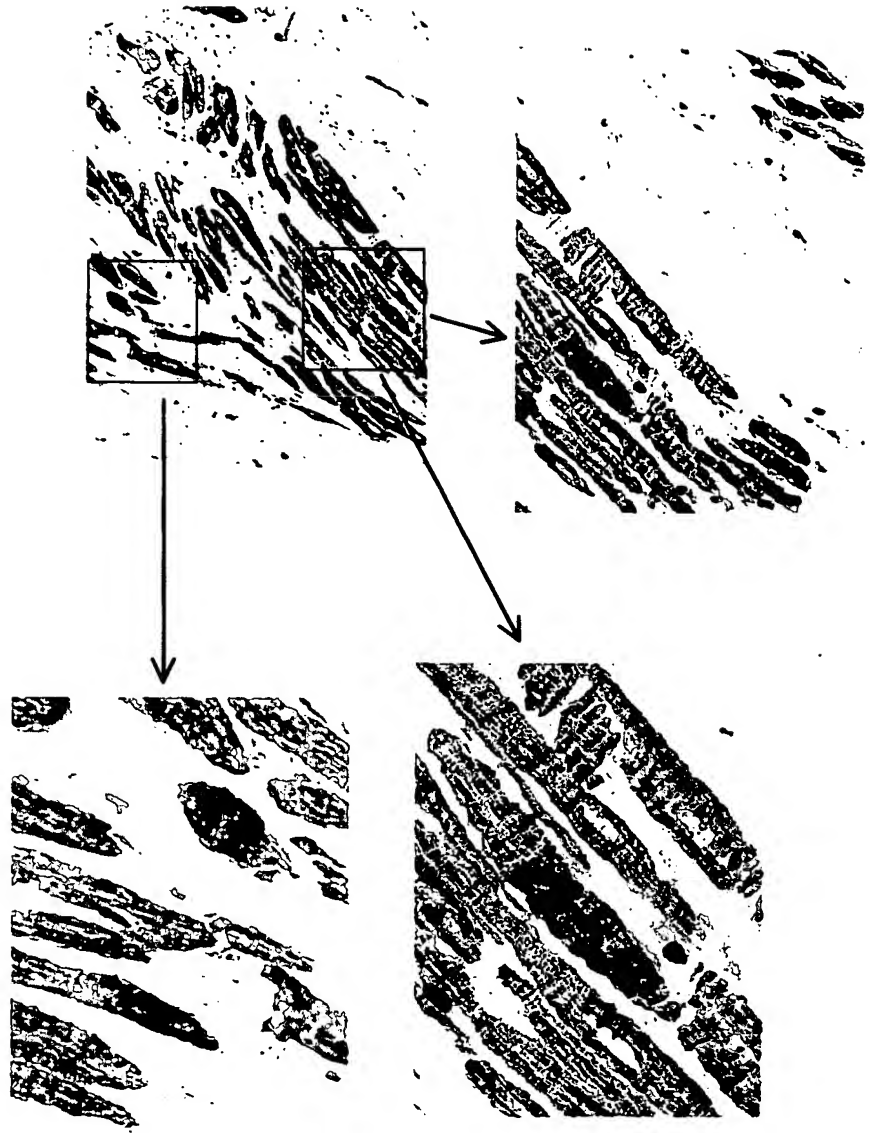
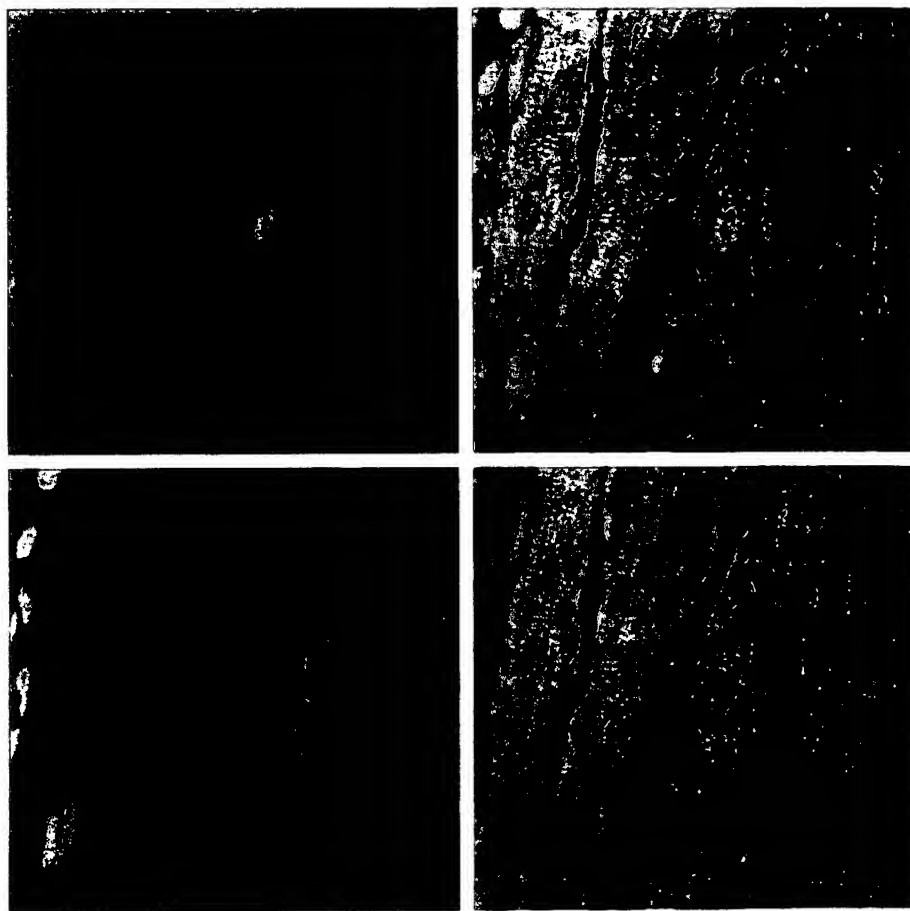


FIGURE 22C

(c)



Confocal microscopy showing nuclear cycling (blue nucleus, green rat Ki67)
of troponin I-positive mature cardiomyocyte (red cytoplasm)

FIGURE 23

number of apoptotic myocytes/high
powered field at peri-infarct region

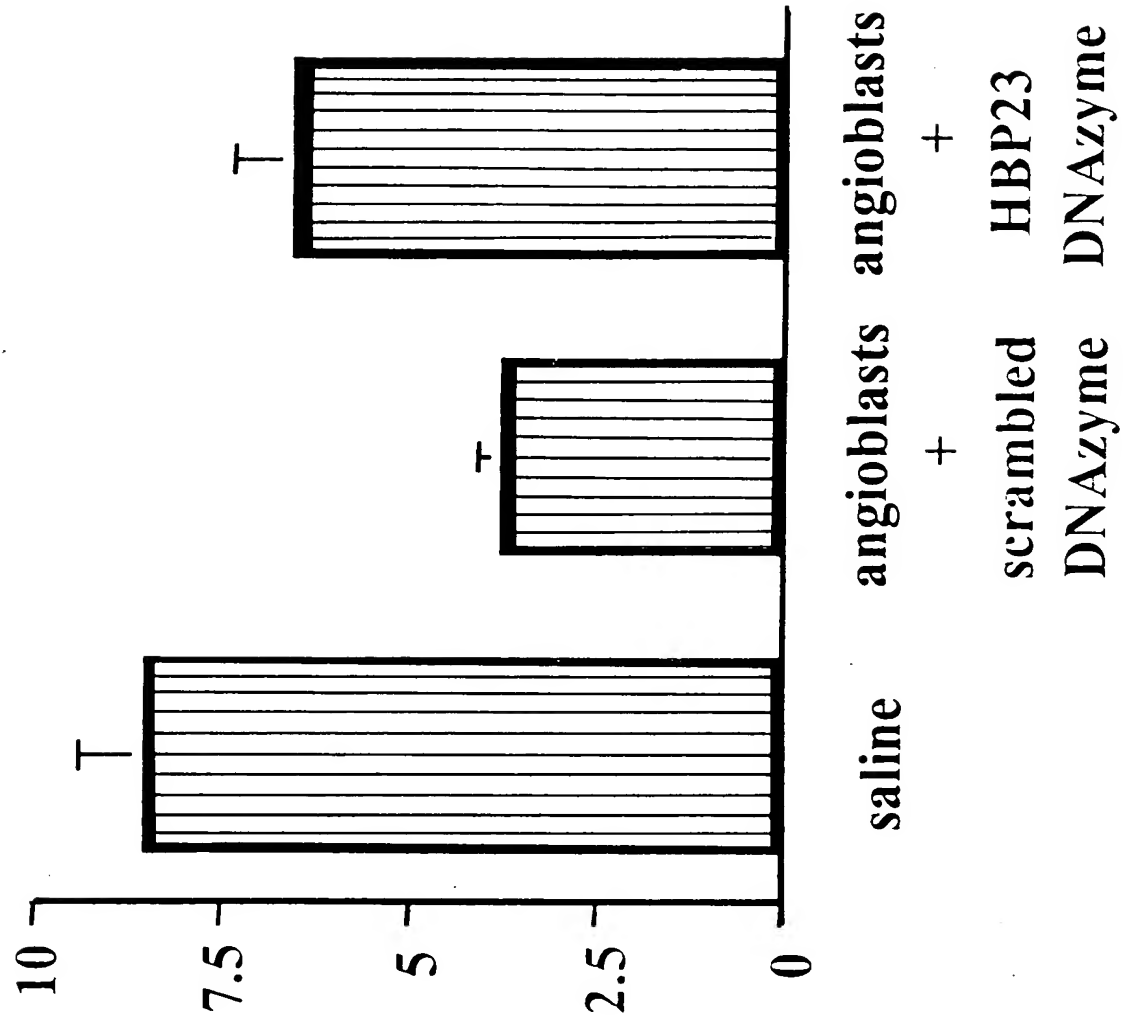


FIGURE 24A

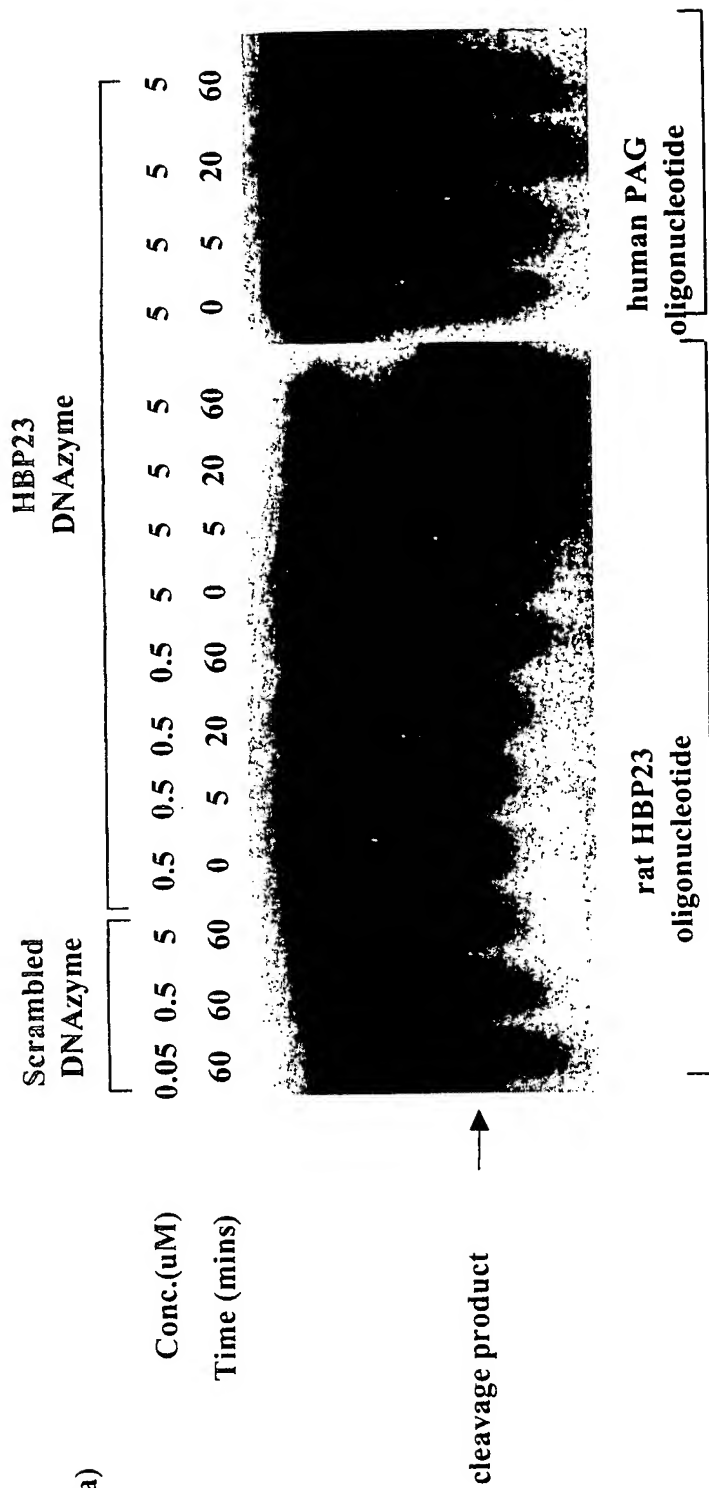
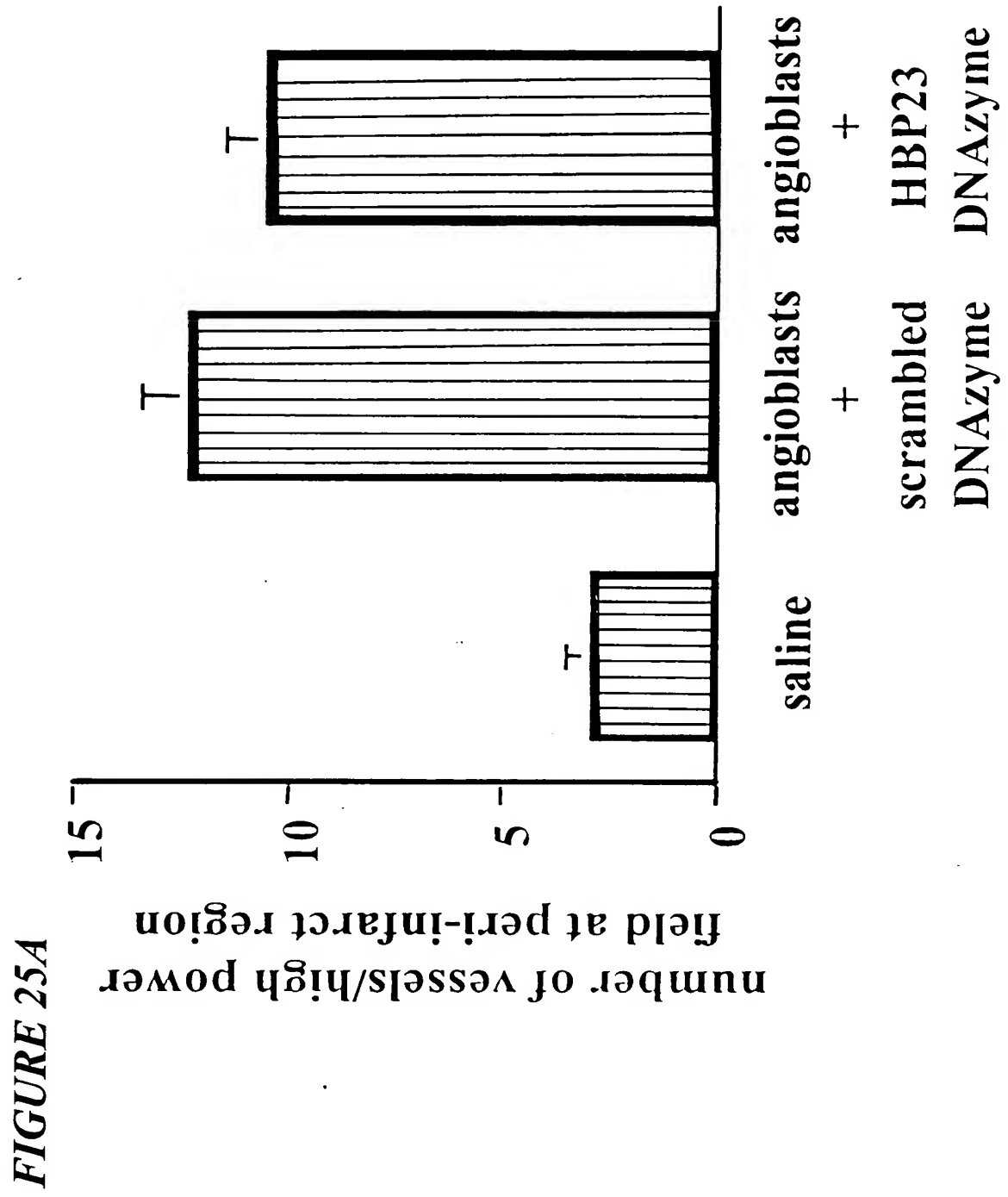


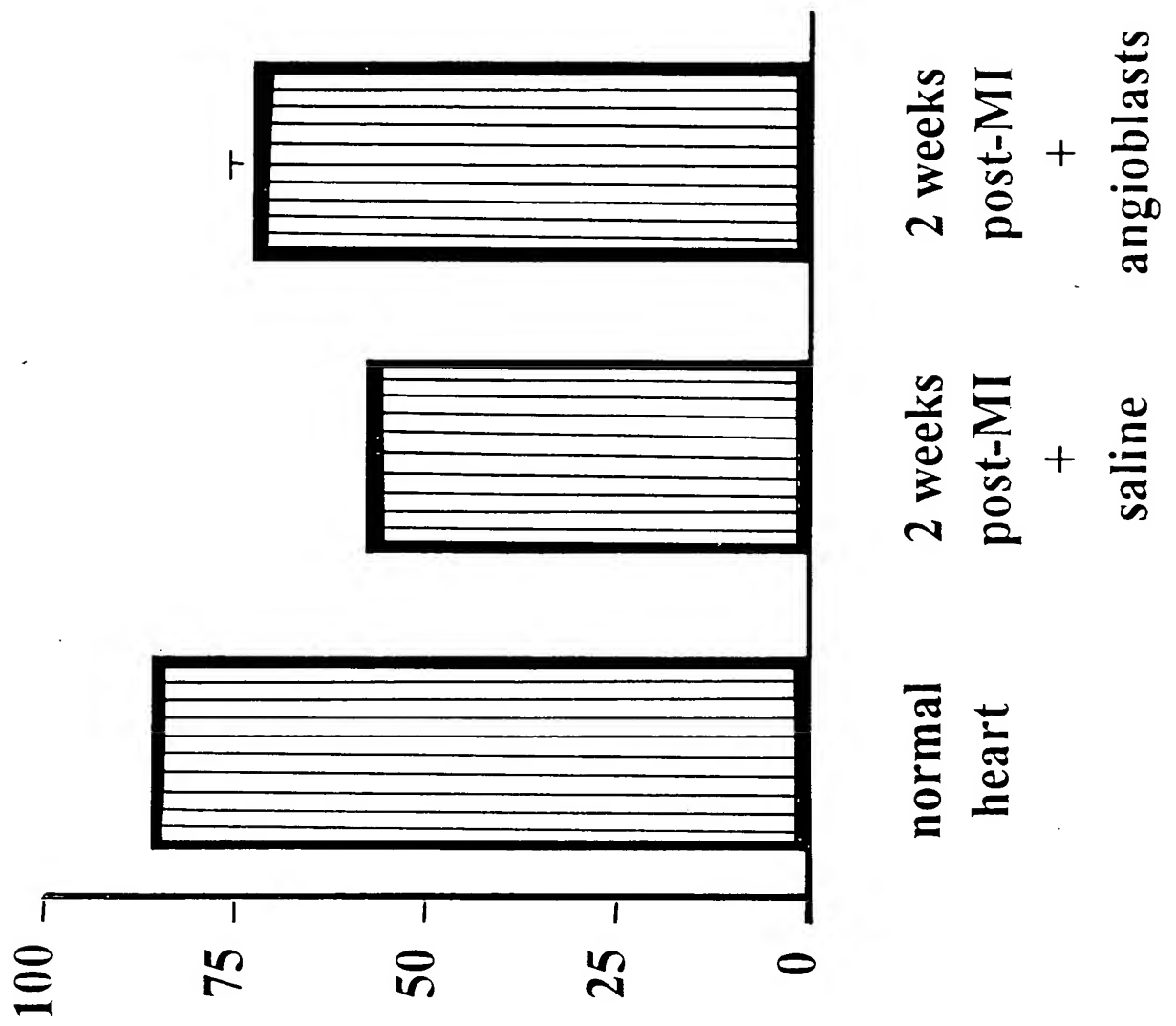
FIGURE 24B

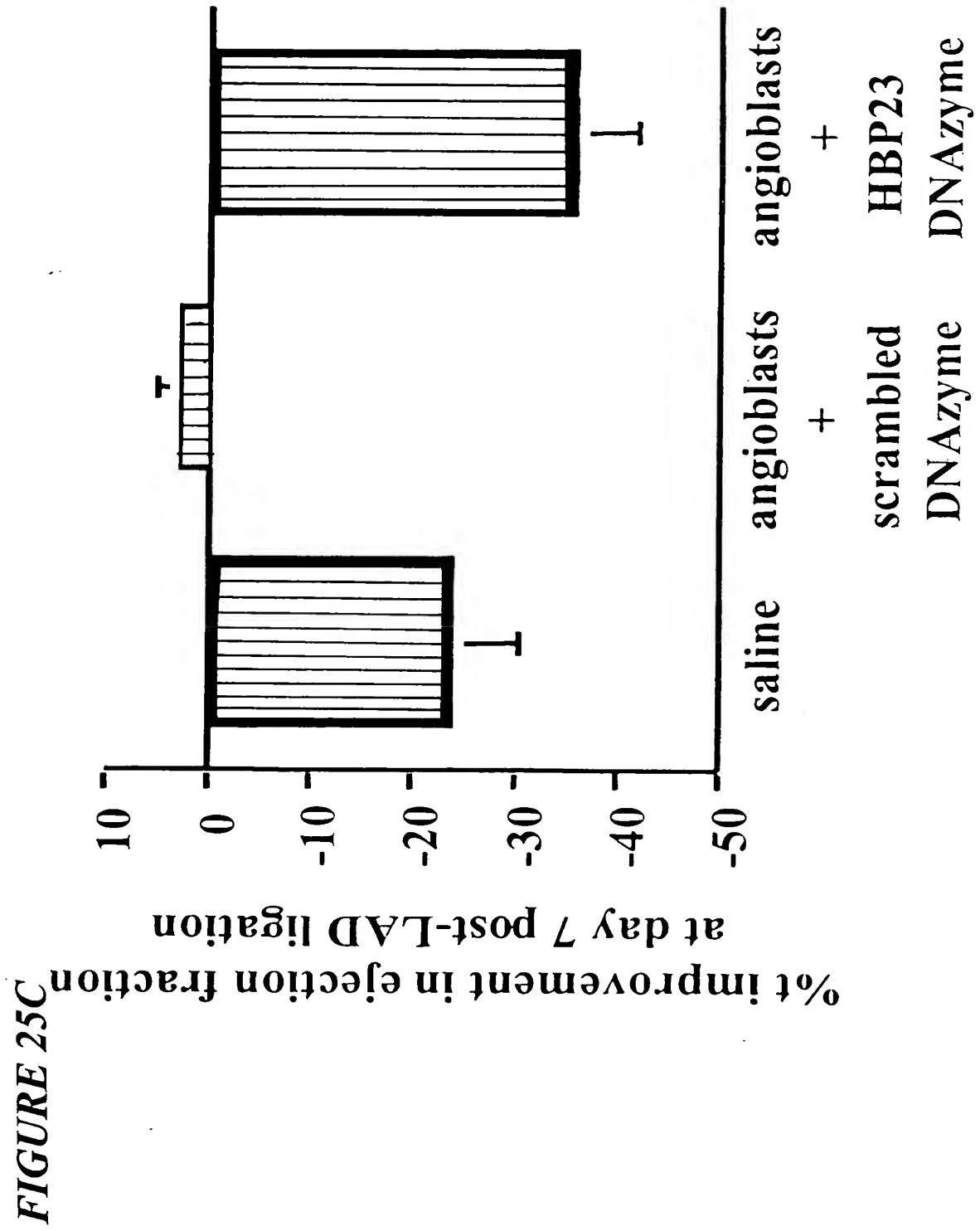




relative expression of HBP23 mRNA

FIGURE 25B





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FIGURE 26

*Pattern Of CXCR4 Expression Following Acute Myocardial Ischemia Is
Focal And Peri-Infarct*

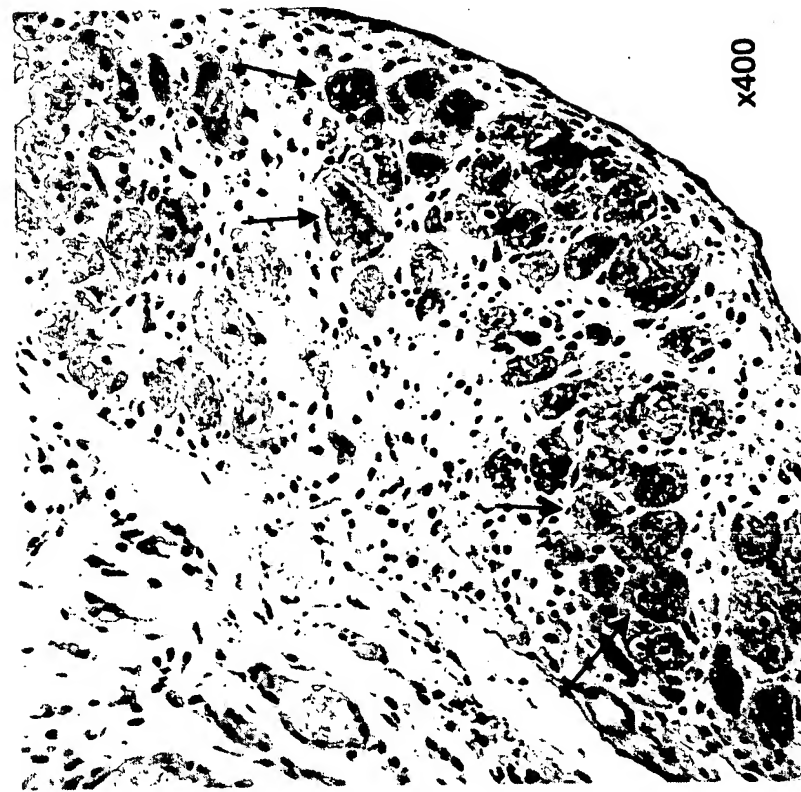


FIGURE 27

Single Myocardial Injection Of SDF-1 After Acute Ischemia Induces Early Phosphorylation Of AKT

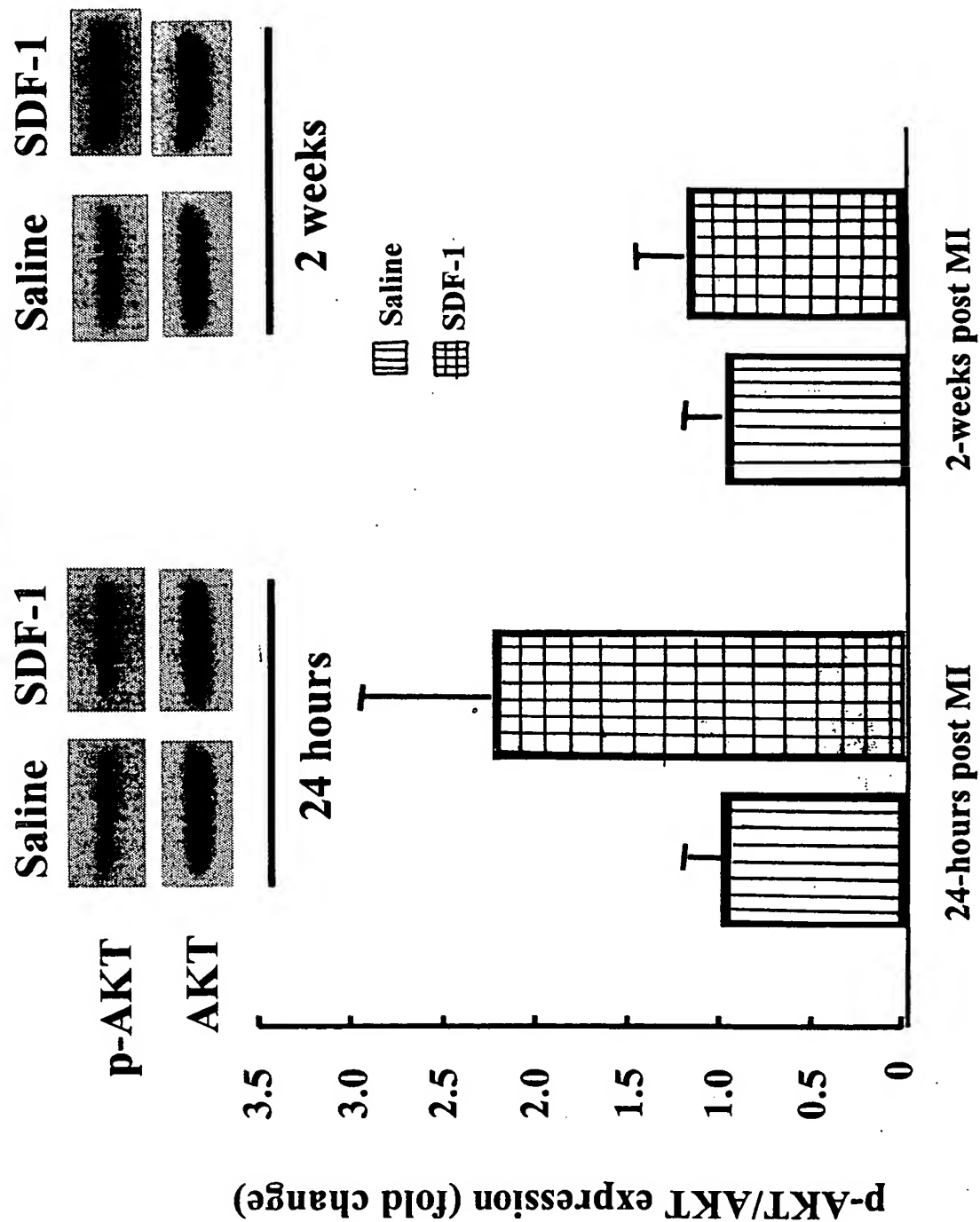


FIGURE 28

Cultured Rat Neonatal Cardiomyocytes Express CXCR4

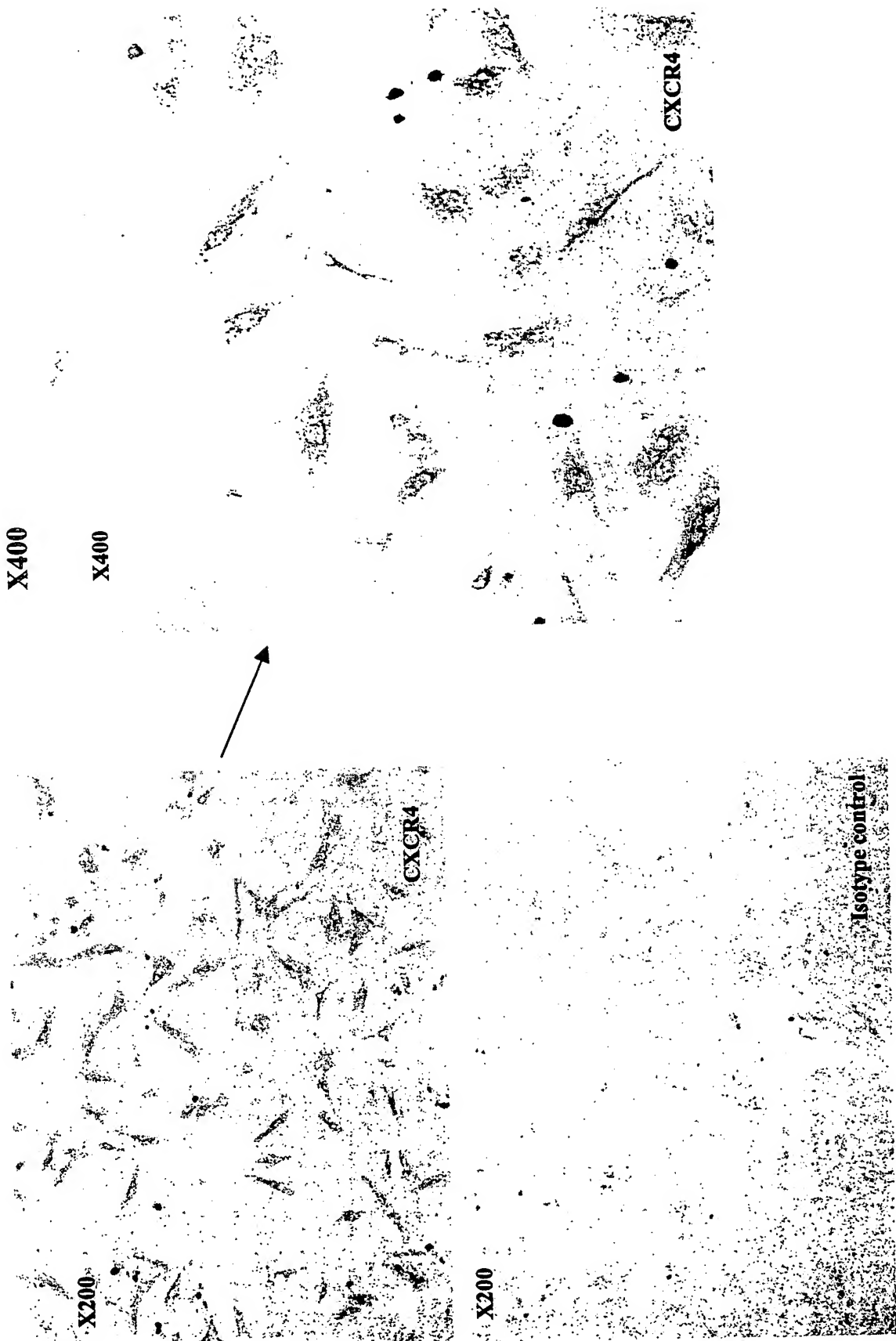
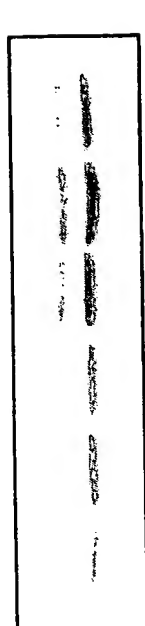


FIGURE 29

Effect of SDF (100nM) on pAKT/AKT and pERK/ERK
Expression in Rat Neonatal Cardiac Myocytes

SDF 0 1 5 10 15 30 min

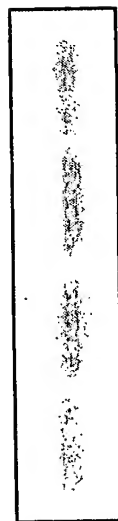


pERK

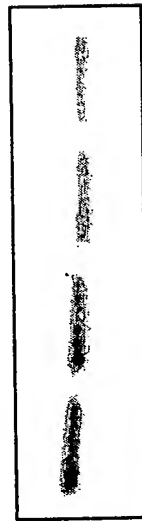


ERK

F 0 1 5 10 min



pAKT



AKT

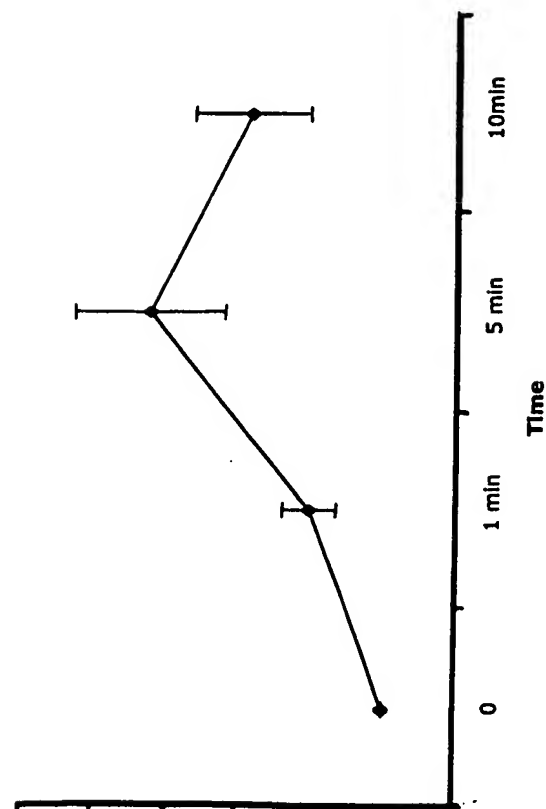
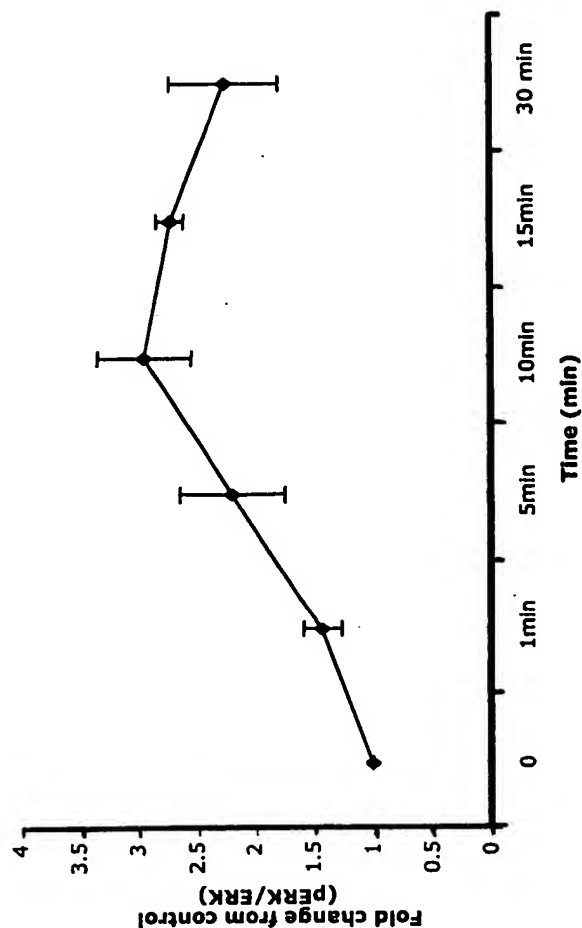


FIGURE 31

*Intracardiac SDF-1 Augments CSF-Induced Neovascularization
And Regeneration Of Acutely Ischemic Myocardium*

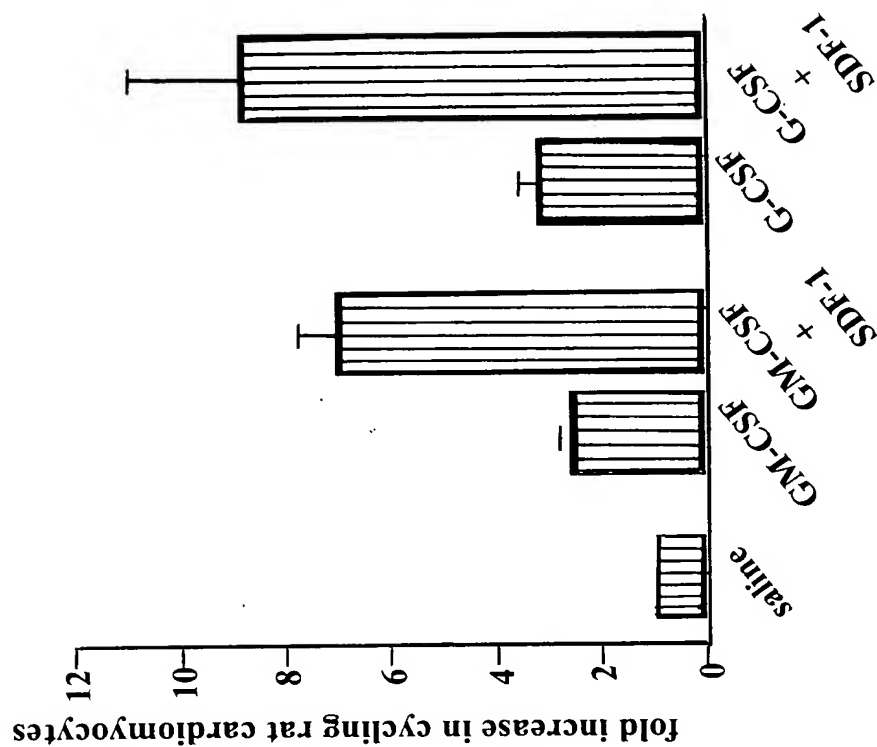
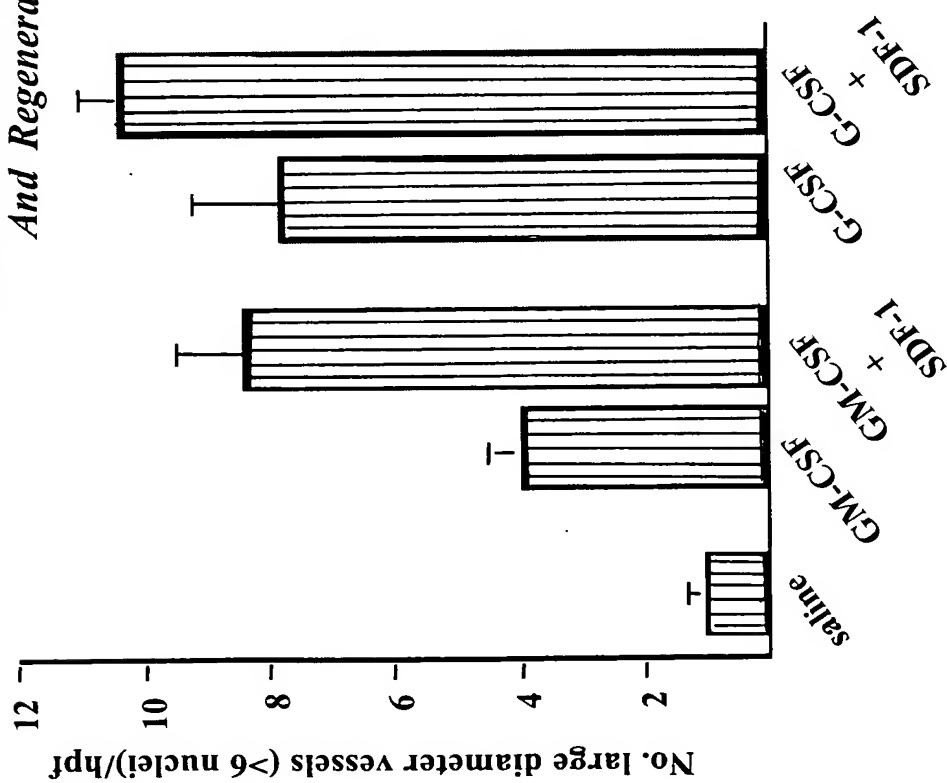


FIGURE 32

Intracardiac SDF-1 Augments CSF-Induced Functional Myocardial Recovery After Acute Ischemic

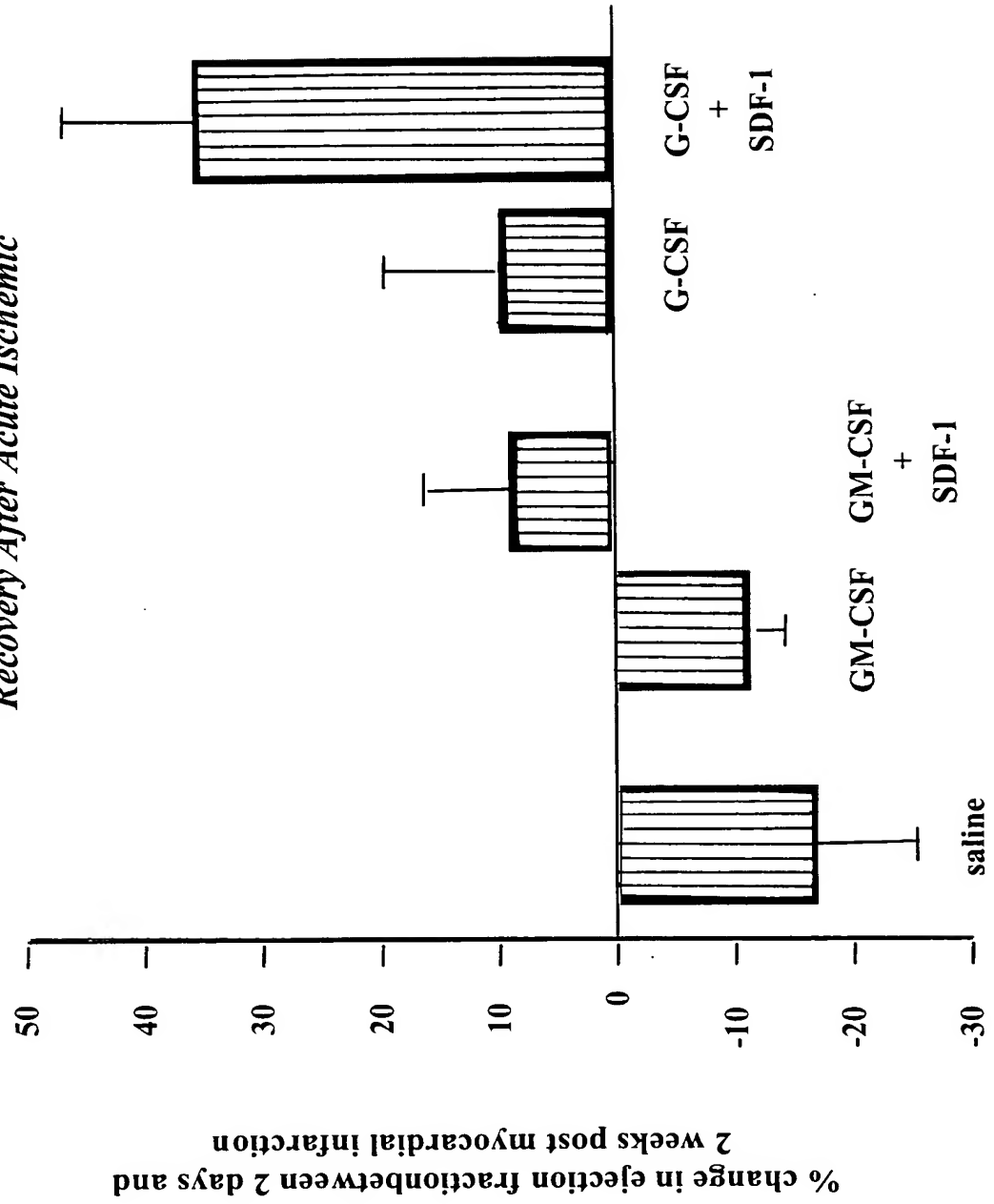


FIGURE 30

*SDF-1 Protects Rat Neonatal Cardiomyocytes Against
H2O2-Induced Apoptosis*

